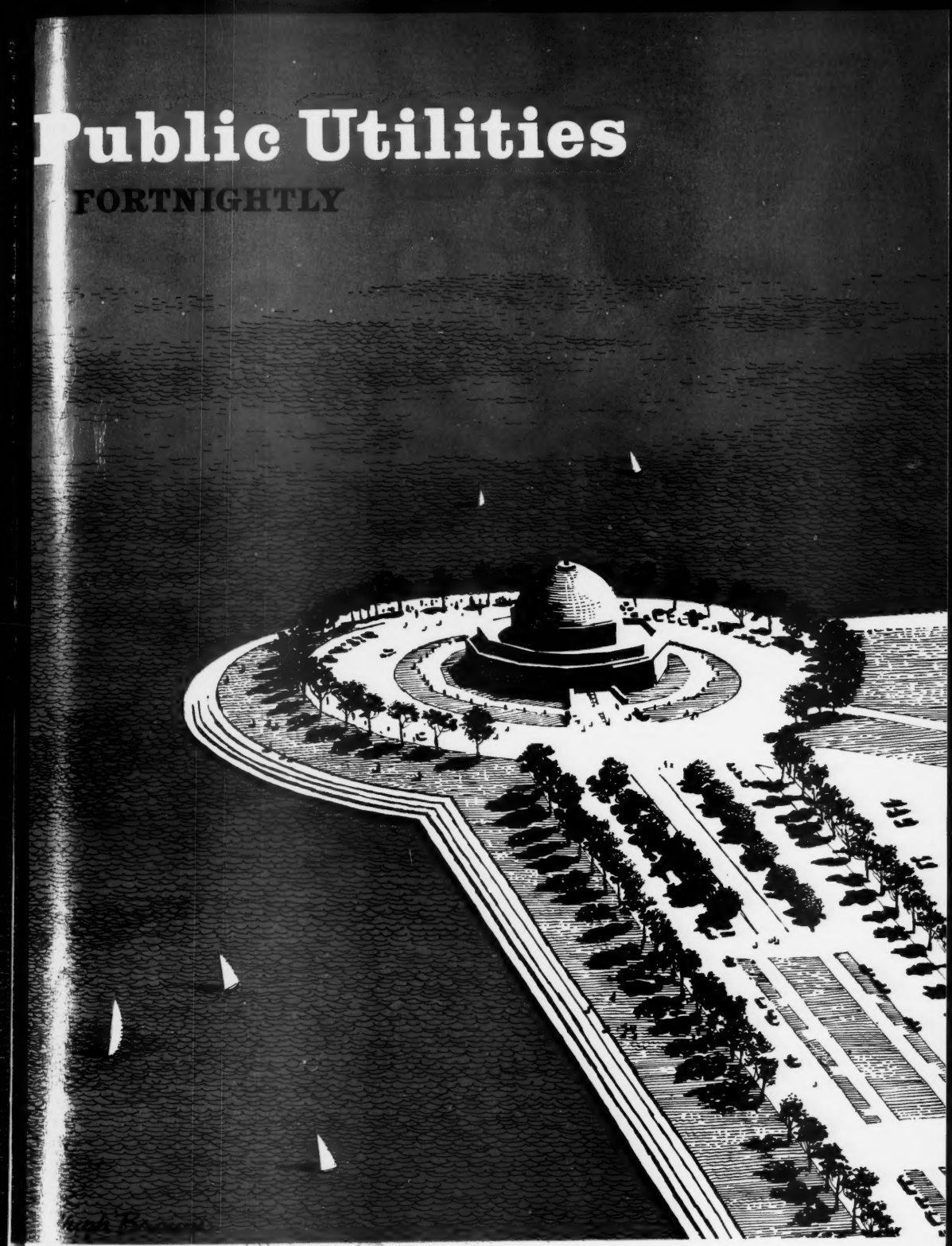
Public Utilities
FORTNIGHTLY



GREETINGS—61st ANNUAL CONVENTION USITA—OCTOBER 13—15, 1958—CHICAGO, ILLINOIS

The Adler Planetarium

New Horizons Loom for the Independent Telephone Companies

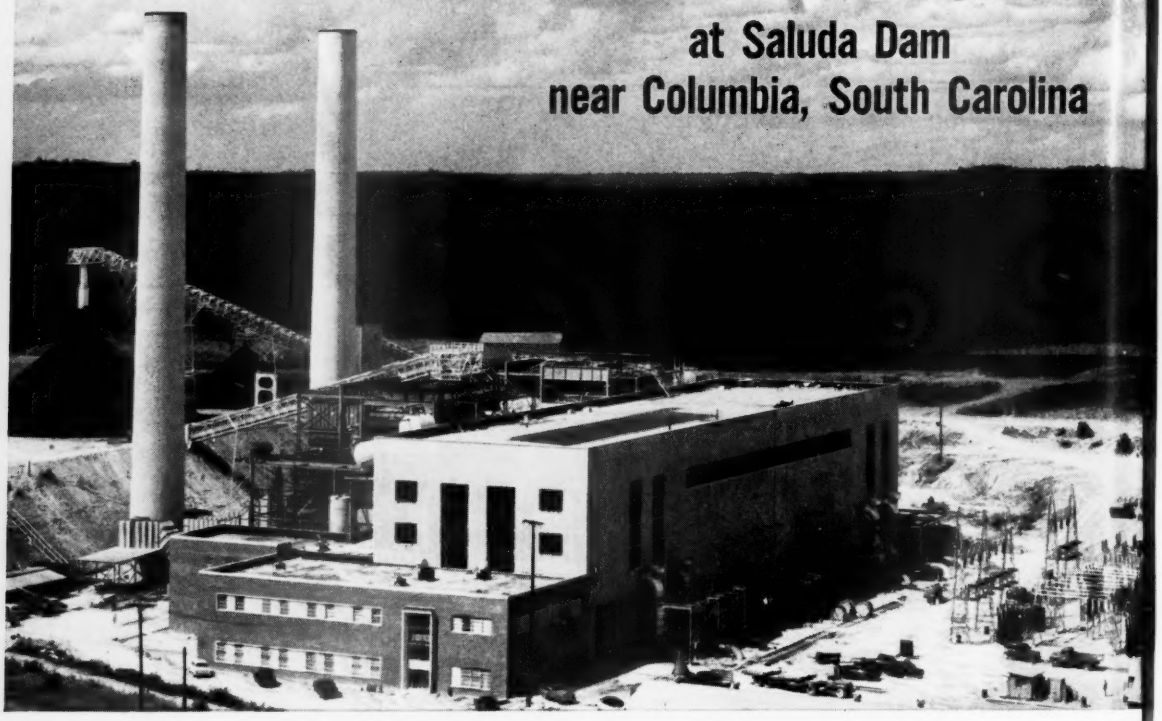
OCTOBER 9, 1958

UNITS NUMBER 1 AND 2 OF

South Carolina Electric & Gas Co.'s

McMeekin Steam Station

at Saluda Dam
near Columbia, South Carolina



Silas C. McMeekin steam electric generating station, strategically located at the foot of Saluda dam and adjacent to the hydro plant, incorporates two outstanding innovations in power plant design. Circulating water is taken from and returned to the existing penstocks of the hydro plant utilizing the lake water with year round temperatures averaging approximately 52° F. The steam generators are of a new "low head" design with an overall height of 90 feet.

The station consists of two cross-compound, axial flow turbine generators each rated at 137,500 kilowatts capability operating at 2400 psig with 1050° F. initial and 1000° F. reheat temperatures. Each of the controlled circulation steam generators, fired with pulverized bituminous coal, has a rating of 910,000 lbs. per hour.

Unit No. 1 is now operating and Unit No. 2 is scheduled for commercial operation later this year.

Gilbert Associates, Inc. is proud to have participated in the development of this new station of advanced design.

A SYMBOL OF GAI FOUNDED 1906 PROGRESS

GILBERT ASSOCIATES, INC.

ENGINEERS AND CONSULTANTS

READING, PENNSYLVANIA

Editor-in-Chief • ELLSWORTH NICHOLS
Editor • FRANCIS X. WELCH
Associate Editors • RALPH S. CHILD
NEIL H. DUFFY
NORMAN J. BARATT
GEORGE E. TURNER
FORRESTER MAPHIS
Assistant Editors • M. C. MCCARTHY
M. L. WILLIAMS
Financial Editor • OWEN ELY

Advertising Manager • E. L. COOKE
Circulation Manager • E. S. STEVENS

REPRINTS OF ARTICLES
(200 or more copies)
available on orders received within 30 days after publication date.
Address
WASHINGTON OFFICE
for quotations.

PUBLIC UTILITIES FORTNIGHTLY . . stands for federal and state regulation of both privately owned and operated utilities and publicly owned and operated utilities, on a fair and nondiscriminatory basis; for nondiscriminatory administration of laws; for equitable and nondiscriminatory taxation; and, in general—for the perpetuation of the free enterprise system. It is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is supported by subscription and advertising revenue; it is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.

Subscriptions: Address correspondence to PUBLIC UTILITIES FORTNIGHTLY, circulation department, 332 Pennsylvania Building, Washington 4, D. C. Allow one month for change of address.

Single copies $1.00. Annual subscription price (26 issues a year): United States and possessions, $15.00; Pan American countries, $15.00; Canada, $16.00; all other countries, $17.50.

Entered as second-class matter April 29, 1915, under the Act of March 3, 1879, at the Post Office at Baltimore, Md., December 31, 1936. Copyrighted, 1958, by Public Utilities Reports, Inc. Printed in U. S. A.

Public Utilities FORTNIGHTLY

VOLUME 62 OCTOBER 9, 1958 NUMBER 8

Cover Illustration—The Adler Planetarium, Chicago

ARTICLES

Independent Telephony and Its Expanding Horizons ..... *Hugh A. Barnhart* 505
A persuasive account of the background and objectives surrounding the theme of the sixty-first annual convention of the USITA.

Forward Look in Communications ..... *R. Karl Honaman* 511
A broad view of technical research and developments in the telephone field as they bear on the overall usefulness of the telephone industry to the public.

Finding New Telephone Customer Contacts ..... *James H. Collins* 521
What can be done to restore the important warm and human contact between the company and the customer which has all but vanished in the wake of automatic switching?

Current and Future Programs of the Telephone Industry 532
An account of what the telephone industry in the United States is thinking about and what it is doing and planning at the executive level.

FEATURE SECTIONS

Washington and the Utilities 561
Financial News and Comment ..... *Owen Ely* 565
What Others Think 574
Relations among Business, Government, and the Public 574
Keep the Kiddies Away from Direct Dialing for Fun .. 580
The March of Events 582
Progress of Regulation 585
Industrial Progress 25
Cutting Costs in Business Communications ..... *John Mappelbeck* 25

• *Pages with the Editors* . 6 • *Utilities Almanack* 21
• *Coming in the Next Issue* 10 • *Frontispiece* 22
• *Remarkable Remarks* .. 12 • *Index to Advertisers* .. 46

PUBLIC UTILITIES REPORTS, INC., PUBLISHERS

Executive, Editorial & Advertising Offices ..... 332 PENNSYLVANIA BLDG., WASHINGTON 4, D. C.
Publication Office ..... CANDLER BUILDING, BALTIMORE 2, MD.
Advertising Representatives:
New York 6: Robert S. Farley, 111 Broadway, COrtland 7-6638
Cleveland 15: Macintyre-Simpson & Woods, 1900 Euclid Avenue, CHerry 1-1501
Chicago 1: Macintyre-Simpson & Woods, 75 E. Wacker Drive, CEntral 6-1715
Pacific Coast: M. D. Pugh & Associates,
P. O. Box 32188, Los Angeles 32, Calif.—CApitol 2-8857
and
Hunter Vinton, 1050 Lincoln Avenue, Palo Alto, Calif.—DAvenport 5-4815

UNITED UTILITIES SYSTEM

Map showing general areas of operations of United Utilities subsidiaries. Symbols represent number and approximate location, only, of communities served.

- ● Telephone
- □ Electric, Gas or Water
- ◆ L P Gas
- ★ Subsidiary Company Headquarters
- ⊛ Parent Company Operating Headquarters and Subsidiary Company Headquarters

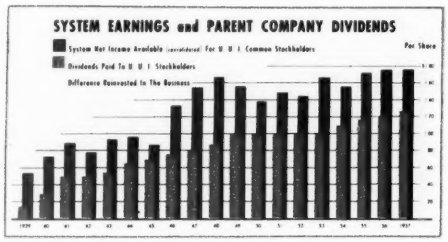
JULY 1958

OCTOBER

UNITED UTILITIES, INCORPORATED

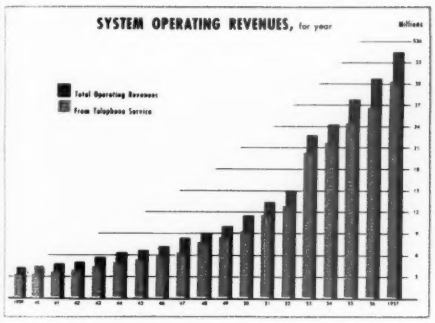
603 V.F.W. BUILDING • 34th & BROADWAY • KANSAS CITY 11, MO.

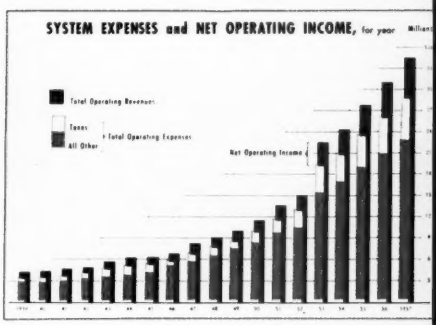
GRAPHIC PORTRAYAL OF GROWTH OF UNITED UTILITIES SYSTEM

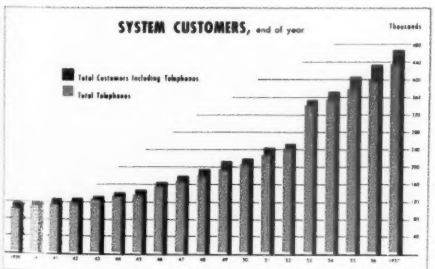

SYSTEM EARNINGS and PARENT COMPANY DIVIDENDS
System Net Income Available (consolidated) For U. U. I. Common Stockholders
Dividends Paid To U. U. I. Stockholders
Difference Reinvested In The Business
Per Share

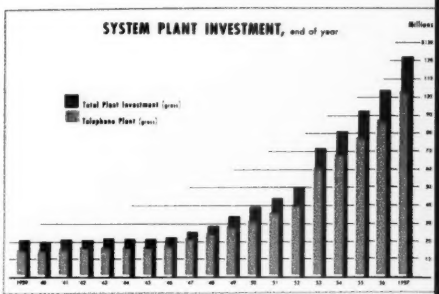
UNITED UTILITIES SYSTEM

UNITED TO SERVE









BY PIPE LINE

NATURAL GAS — LIQUID PETROLEUM GAS

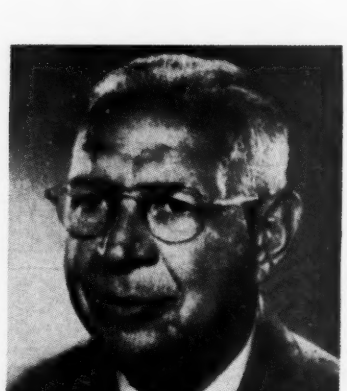
BY TRUCK

Above information taken from 1957 annual report. Copy available upon request.

Pages with the Editors

WITH this issue we salute the sixty-first annual convention of the United States Independent Telephone Association, scheduled to meet in Chicago October 13th to 15th. Following our custom of the past several years, we have brought together in this issue materials which we believe will be of special interest and value to our subscribers in the telephone industry.

IN the lead-off position we have an article from an independent telephone company executive from Indiana, who—if tradition is followed—will be the president of the USITA at the conclusion of its Chicago convention this month. This author, HUGH A. BARNHART, is a graduate of Indiana University who spent two years in the Field Artillery of World War I. He became president of the Rochester Telephone Company, Inc., of Rochester, Indiana, over a quarter of a century ago —in 1932. At that time MR. BARNHART directly succeeded his late father, A. J. Barnhart, who had founded the Rochester Telephone Company way back in 1895 and was its first president. MR. BARNHART has also served on the board of directors of the Indiana State Telephone Association and has been active in the affairs of



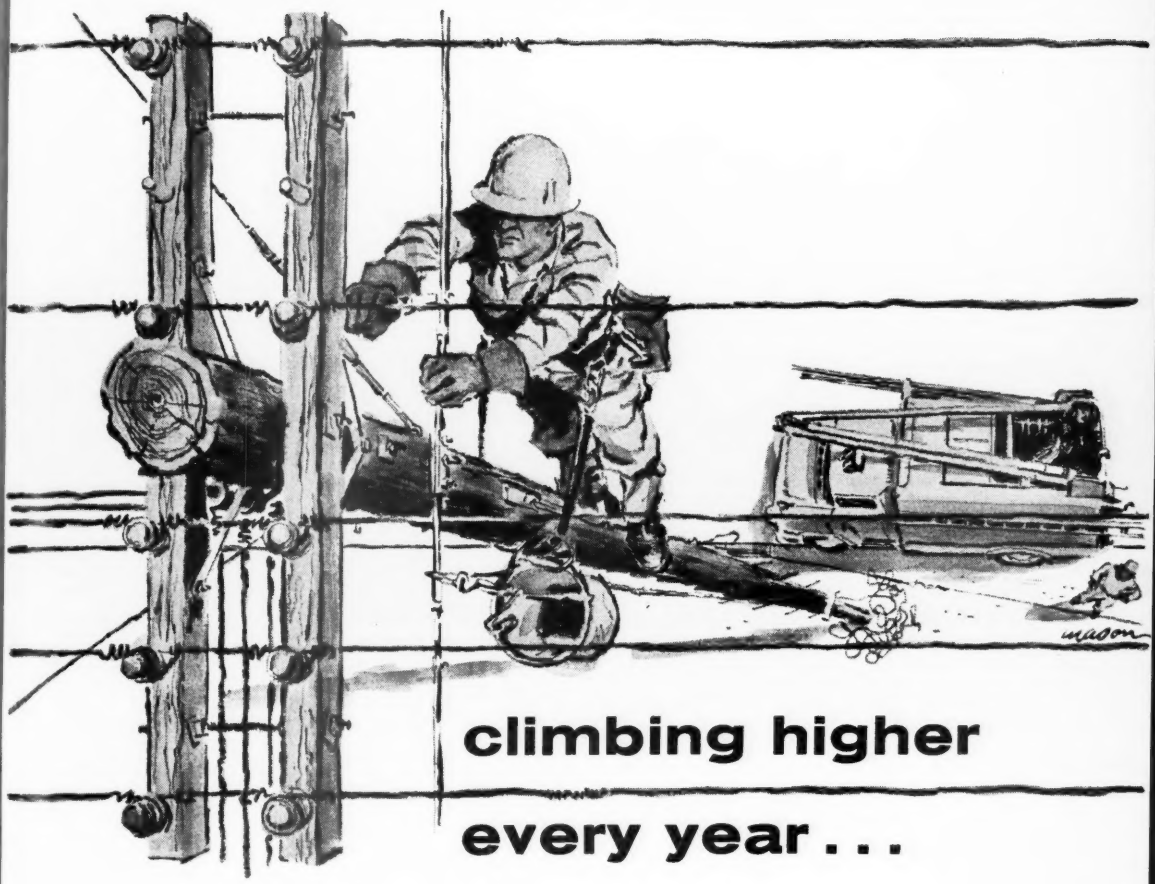
HUGH A. BARNHART

the USITA, of which he was first vice president when the article in this issue was written. In 1956 MR. BARNHART was director of the Commerce Department's communications division of its Business and Defense Services Administration.

MR. BARNHART's article serves to remind us that the telephone business is fast approaching the time when it may no longer be regarded as essentially a pair of wires connecting two people at distant points for conventional purposes via a central office switchboard. That was, of course, the original objective of Alexander Graham Bell's invention over three-quarters of a century ago. The "pair-of-wires" concept of the telephone business was still the prevailing impression of the telephone industry's functions as recently as twenty-five years ago. But with the rapid progress made in the art of electronics and radiotelephony during World War II and more rapidly in the postwar period, the picture is changing. The day may soon come when the volume of telephone traffic moving over the air or through coaxial cables or other special electronic devices will approach in quantity the volume of traffic moving over conventional telephone wires.

Fabian Bachrach

R. KARL HONAMAN



Each year the approximately 6,000 independent telephone companies give greatly improved telephone service to a constantly growing number of people.

Since 1953 Kidder, Peabody & Co. and its corporate affiliate, Kidder, Peabody & Co., Incorporated, have helped provide capital in amounts ranging from $250,000 to $21,400,000 for independent telephone companies through the underwriting and sale of 60 new security issues.

It is our function to plan and execute sound financial programs for each individual company on the most favorable terms. To accomplish this objective, we maintain an experienced, highly trained research staff. We also maintain an active over-the-counter Trading Department which has a close day-to-day familiarity with new business and economic developments as well as the latest market trends.

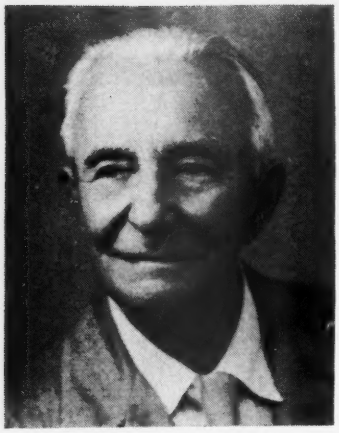
With 23 modern offices coast-to-coast, our firm has the distribution facilities, the underwriting contacts, the resources and the experience to provide complete professional assistance to independent telephone companies seeking new capital for expansion or modernization.

We invite your inquiries.

KIDDER, PEABODY & CO.
FOUNDED 1865

Members New York and American Stock Exchanges
Members Boston and Midwest Stock Exchanges

17 WALL STREET · NEW YORK 5, N. Y.
BOSTON PHILADELPHIA CHICAGO LOS ANGELES



JAMES H. COLLINS

FURTHERMORE the newly created possibilities of expanding the capacity of telephone facilities has brought the telephone companies face to face with new communications services and markets undreamed of just a few years ago. To cash in on these possibilities and exploit these markets, the telephone industry itself has had to reorganize its thinking and go on an aggressive merchandising basis similar to the experience of the electric utility industry during the period of large-scale and diversified appliance distribution. Of course this is a process which is still going on and promises to go on for the unlimited future.

* * * *

THE article, entitled "Forward Look in Communications," beginning on page 511, gives us a sort of advanced peek at the future possibilities of the telephone business. It is the product of R. KARL HONAMAN, director of publication of the Bell Telephone Laboratories. Born in Lancaster, Pennsylvania, MR. HONAMAN was educated in public schools and graduated from Franklin and Marshall College (BS, '16 and MS, '17). During World War I he became interested in airplane engine designing. Eventually he joined the faculty of George Washington University in Washington, D. C., as assistant professor of electrical engineering. In 1919 he entered the service of the American Telephone and Telegraph Company in its development and research department and transferred to Bell Laboratories in 1934. In World War II he was director of a school for training officers and technicians in radar and related developments. He has been director of publication for Bell Laboratories since 1945. In 1958 he received the Centennial Medal of Seton Hall University. He makes his home at Glen Ridge, New Jersey, of which he was mayor from 1948 to 1952.

* * * *

WITH this issue we introduce a very important feature developed by our editorial staff, beginning on page 532, entitled "Current and Future Programs of the Telephone Industry." This collection of statements, by various telephone company officials, was the direct outgrowth of a request from our editors to a number of telephone company presidents in both the Bell system and independent fields. They were asked to give us some information about their plans for the future, as well as during the current year, with respect to plant construction and merchandising programs of various kinds.

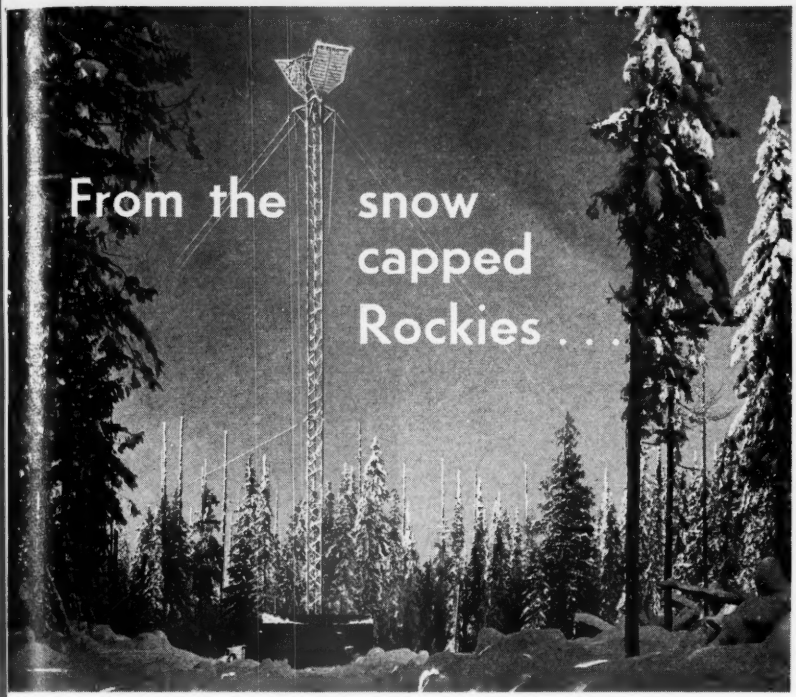
WE specifically requested information as to the impact of the now receding recession on these programs and what changes or modifications were necessary, if any. We believe that the resulting responses from the presidents and other executive officials, which the readers will find in this collection of statements, represent a very thoughtful cross section of what the telephone industry in the United States is doing and planning at the executive level. Confronted as we are with the almost certain continuation of inflation, the period ahead may well be a critical one in the industry's history.

* * * *

THE article beginning on page 521, by JAMES H. COLLINS, business writer of Washington, D. C., takes up the problem of what can be done to restore or replace, suitably and effectively, the pleasant human contact which is rapidly vanishing as a result of automatic switching.

THE next number of this magazine will be out October 23rd.

The Editors

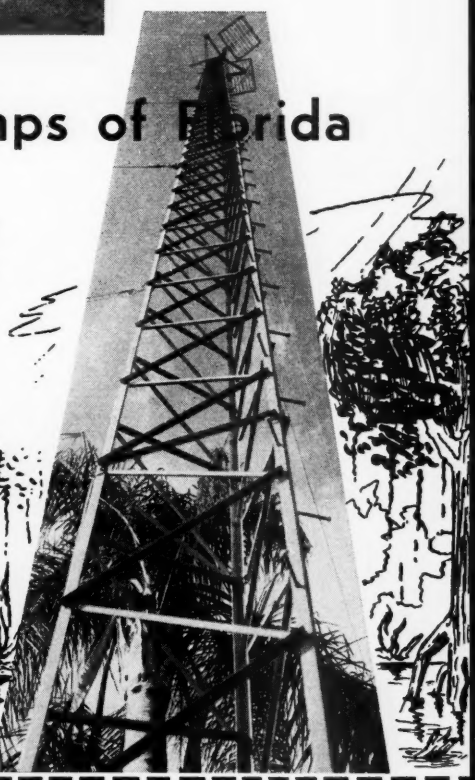


TOWER CONSTRUCTION CO. converts your communication requirements into an operating system through their **COMPLETE SERVICE** that includes:

- —Custom engineering to fit your specifications
- —Erection of towers and antennas
- —Preparation of the site; Construction of roads and buildings
- —Installation of power services, including engine generator sets, and installation of communications electronic equipment

From "on-the-board" to "on-the-air," one order . . . one responsibility!

. . . to the cypress swamps of Florida



TOWER CONSTRUCTION CO. IS ON THE JOB!

Proof that TOWER delivers on the toughest jobs can be seen in these recently completed installations:

GENERAL TELEPHONE of the NORTHWEST (mountain site)

CALIFORNIA INTERSTATE TELEPHONE (mountain site)

SOUTHWESTERN STATES TELEPHONE OF TEXAS (prairie on solid rock)

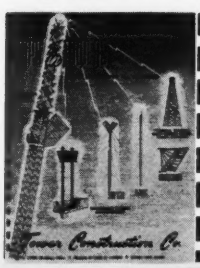
INTER-COUNTY TELEPHONE, FLORIDA (high water table)

TOWER CONSTRUCTION CO.

2713 HAWKEYE DRIVE

SIOUX CITY, IOWA

Tower Erectors and Fabricators the World Over!



MAIL COUPON FOR FREE 92-PAGE BOOK
on Microwave Towers—Reflectors—Buildings—Special Towers
TOWER CONSTRUCTION CO.
2713 Hawkeye Drive, SIOUX CITY, IOWA

Name .....

Firm .....

Address .....

City ..... State.....

Coming IN THE NEXT ISSUE

(October 23, 1958, issue)

★

GAS BUILDS A GREATER AMERICA

Less than three decades ago, the demonstration that southwestern gas could be transported to the Chicago area for practical and economical fuel, opened new horizons. The potential market expanded from a few states to the entire Union. Today these horizons are still expanding. Robert W. Otto, president of the American Gas Association, gives us a stirring message about the rôle which the gas industry is destined to play in building a greater America.

CURRENT FPC PROBLEMS IN GAS REGULATION

It was in 1938 that the Federal Power Commission, with the enactment of the Natural Gas Act, took over the responsibility of regulating interstate sales of natural gas for public service. Since then a series of important decisions has emphasized as well as added complexity to the federal job of controlling these operations under the act. Jerome K. Kuykendall, chairman of the Federal Power Commission, tells us about the increasingly difficult but essential rôle of that board, which has become the federal umpire for the interstate operations of a great and growing public service industry.

FROM COST OF SERVICE TO RATE MAKING

Since the Phillips decision in 1954, the Federal Power Commission has been preoccupied with the task of developing workable methods to cope with the tremendous and somewhat unexpected responsibility of regulating gas producers. But only recently has the commission come to grips with the essential features of rate-making procedure. Charles H. Frazier, executive engineer of the Philadelphia Gas Works, has worked out some thought-provoking ideas for expediting the flow of rate making for producers within the framework of cost-of-service principles established under the Natural Gas Act.

AIR CONDITIONING—GAS INDUSTRY'S HOPE?

Is there a practical market for residential gas air conditioning? G. T. (Ted) Kellogg is a public relations expert on the staff of the Air-Conditioning and Refrigeration Institute, the trade association of the air-conditioning industry. In this article he discusses the research and development activities of the gas industry in the air-conditioning field and the prospects of future promotion and merchandising along this line.

WHAT IS ADEQUATE STAND-BY CAPACITY?

Linn B. Bowman is vice president of the Rochester Gas & Electric Corporation. In this article he outlines six steps whereby natural gas-distributing companies can measure and achieve an adequate stand-by capacity. There is wide variation in practice on this point today. Stand-by capacity has not kept pace with increased sales.

CURRENT AND FUTURE PROGRAMS OF THE GAS INDUSTRY

This is a very important feature developed by the editorial staff of PUBLIC UTILITIES FORTNIGHTLY for the special gas issue of October 23rd. An inquiry was sent to the presidents of a large number of gas utility companies respecting their construction and promotion plans, both current and for the year ahead. The result is an interesting collection of statements reflecting what the gas companies are doing and planning at the executive level.

★

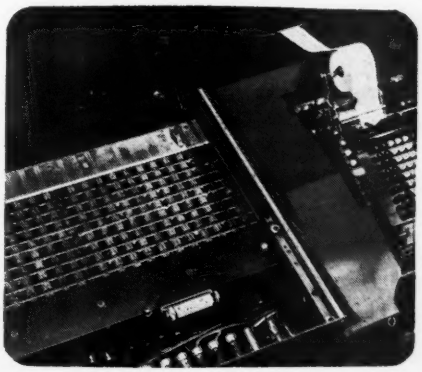
Also . . . ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***

The future belongs

WHETHER rate structures are the 'chicken or the egg' in future planning, *a first and basic requirement is accurate, continuing monthly analyses of present billing.*

Any workable formula for projection of future operations and their capital requirements, must in some measure be based upon what is happening *now.*

R & S can produce these analyses quickly and economically by its "One Step Method of Bill Analysis" on the exclusive machine of its invention shown below. Important too, is our 20 year record of serving hundreds of companies, who have found R & S analyses enjoy considerable prestige with rate commissions. A further advantage is, all the analyses are done in our office, your personnel and equipment are not involved.



As an aid in your future planning send for the booklet describing the "One Step Method of Bill Analysis"—a request to Dept. P-2 will bring a copy without charge or obligation.

R&S

NATION-WIDE SERVICE

RECORDING & STATISTICAL CORP.

100 SIXTH AVENUE
NEW YORK 13, N. Y.

Remarkable Remarks

"There never was in the world two opinions alike."
—MONTAIGNE

ROGER M. BLOUGH
Chairman of the board, United States Steel Corporation.

"Freedom is nurtured only by a diet of more freedom. Dull the sense of personal responsibility for personal decisions, live by rote, copy the copybooks, diminish the right to be wrong, and by the same degree you diminish freedom."

ROBERT C. TAIT
President, Stromberg-Carlson Company.

"[Business had been] the whipping boy in Washington for generations, even though every Congressman and Senator knows that the country could not have reached anything like its present standard of living without business."

BERNARD BARUCH
Financier.

"If our general economic and security policies are sound, the stock market will adjust to them and we will not need to worry about a possible collapse. If we do not preserve our national security and our national credit, then nothing can have lasting value."

DONALD C. POWER
President, General Telephone Corporation.

". . . it is entirely possible that there are opportunities which abound today just waiting to be discovered and realized in every line of business, including our own telephone business. Difficulties breed opportunities just as naturally as a shorn lamb grows more wool."

CARMAN G. BLOUGH
Director of research, American Institute of Accountancy.

"Many executives and educators think the stockholder may be seriously misinformed about his investment unless he has information about the effect of inflation upon depreciation. They believe that unless inflation is taken into account, operating costs will be understated and net income overstated."

C. JAMES PROUD
President, Advertising Federation of America.

"Government officials who seek to tax advertising are like amateurs who try to remove an appendix. They are very apt to lose the patient. It is important to remember that advertising has traditionally been considered a cost of doing business, and not a product in itself. All business using advertising pay their fair and full share of taxes."

W. F. ROCKWELL, JR.
President, Rockwell Manufacturing Company.

"Many companies do not get full credit for being good industrial citizens. Perhaps this is because they neglect the last half of that cliché which says: 'Good community relations consist 90 per cent of doing good, and only 10 per cent of telling people about it.' That 'only 10 per cent' is extremely important. Good relations—community or otherwise—depend upon understanding, and understanding cannot exist without communication. . . . In community relations, silence is not golden—it is just plain costly."

PROPERTIES OF CENTRAL TELEPHONE COMPANY AND AFFILIATES

PROPERTIES OF

CENTRAL TELEPHONE COMPANY

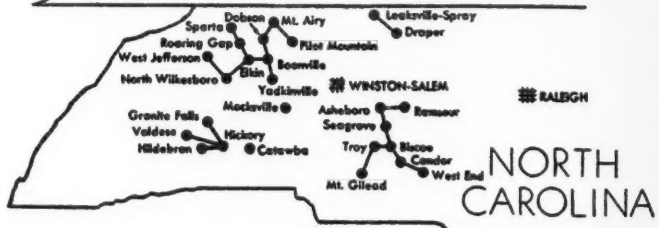
AND AFFILIATES

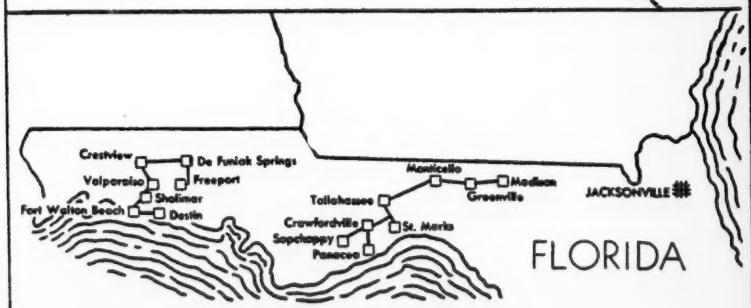
La Crosse Telephone Corporation
Lexington Telephone Company
Middle States Telephone Company of Illinois
Virginia Telephone & Telegraph Company
Southeastern Telephone Company

One of the larger independent telephone systems operating 158 exchanges and serving 275,000 stations, of which over 82% are dial automatic.

Legend

Telephone Exchanges of:
- Central Telephone Company
- La Crosse Telephone Corporation
- Lexington Telephone Company
- Middle States Telephone Company of Illinois
- Virginia Telephone & Telegraph Company
- Southeastern Telephone Company
- Owned Interconnecting Telephone Lines
- Identification Points—No Property Owned





Whether in general operations, financing, engine
ing or other business matters, the consulting
advisory services of Commonwealth can be of ma
rial assistance.

These services are integrated with the pl
and policies of client management in accompli
ing the desired objectives. Commonwealth exp
ence is built on work covering many states
companies, in operations varying from a few
ployees to thousands, and in projects from a
dollars to many millions.

Commonwealth is an independent organizat
built on a business record of 50 years, and wh
owned by officers and employees.

Let our booklet tell you more.

COMMONWEALTH SERVICES INC.

New York, N. Y. Jackson, Mich. Washington, D. C. Houston, Tex.

300 PARK AVENUE, NEW YORK 22, NEW YORK

COMMONWEALTH ASSOCIATES INC.

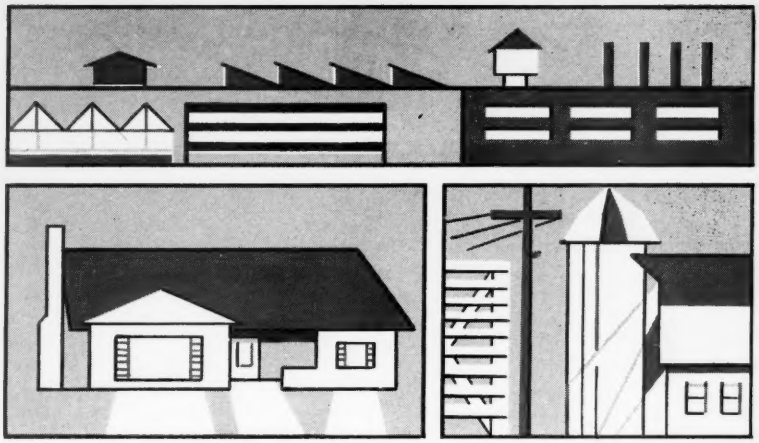
JACKSON, MICHIGAN

The Commonwealth Professional Engineering Organization

FINANCIAL
RATES
INSURANCE
PURCHASING
GAS OPERATIONS
CORPORATE
PENSIONS AND WELFARE
BUSINESS DEVELOPMENT
INDUSTRIAL RELATIONS
PUBLIC RELATIONS
STOCK TRANSFER
PROXY SOLICITATIONS
GENERAL CONSULTATION
ENGINEERING—
CONSULTING AND DESIGN

TAXES
DEPRECIATI
ACCOUNTI

SERVING RICH SOUTHEAST NEBRASKA



This company operates 125 exchanges in the southeast 22 counties of Nebraska, an area of rich farmlands and expanding industry. A $48 million company, it now operates 135,000 telephones, 84% of which are dial. Target date for 100% dial operation is 1962. To keep ahead of customer demands, LT&T has doubled its investment in the last eight years.

Direct distance dialing, first in Nebraska, has been established in 19 exchanges in the last two years. Other similar installations are in progress. All exchanges have direct connection with the national operator toll dialing network. A microwave radio relay system for long distance message transmission was installed this year between three major exchanges and others will follow. The company has direct connection with the transcontinental underground toll cable and the transcontinental radio relay system.

Nebraska's income is stabilized by the rapid growth of industry and the expansion of irrigation. More of the state's income now comes from non-agricultural than from agricultural sources. The state leads the nation in the expansion of irrigation and has an abundance of underground water over large areas which is attractive both to agriculture and industry. Other business advantages include a dependable labor supply, excellent transportation facilities, central location and adequate power. An atomic power plant near Lincoln now under construction will augment the power supply and be a further attraction to industry.

Now in its second 50 years, LT&T is the fourth largest Independent telephone company west of the Mississippi and the largest in Nebraska, operating about one-fourth of the telephones in the state. It is equipped to provide modern telephone communication to meet any customer need.

OFFICERS

Frank H. Woods, Chairman of the Board
Thomas C. Woods, Jr., President
Merle M. Hale, Vice President in Charge of Operations
William I. Aitken, Vice President
Houghton Furr, Secretary and Treasurer
Irl J. Devoe, Controller

DEPARTMENT HEADS

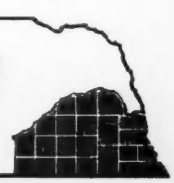
K. L. Lawson, General Commercial Superintendent
M. C. Walker, General Plant Superintendent
L. W. Cleveland, General Traffic Superintendent
Paul H. Henson, Chief Engineer
Walter F. Roberts, Personnel Director

BOARD OF DIRECTORS

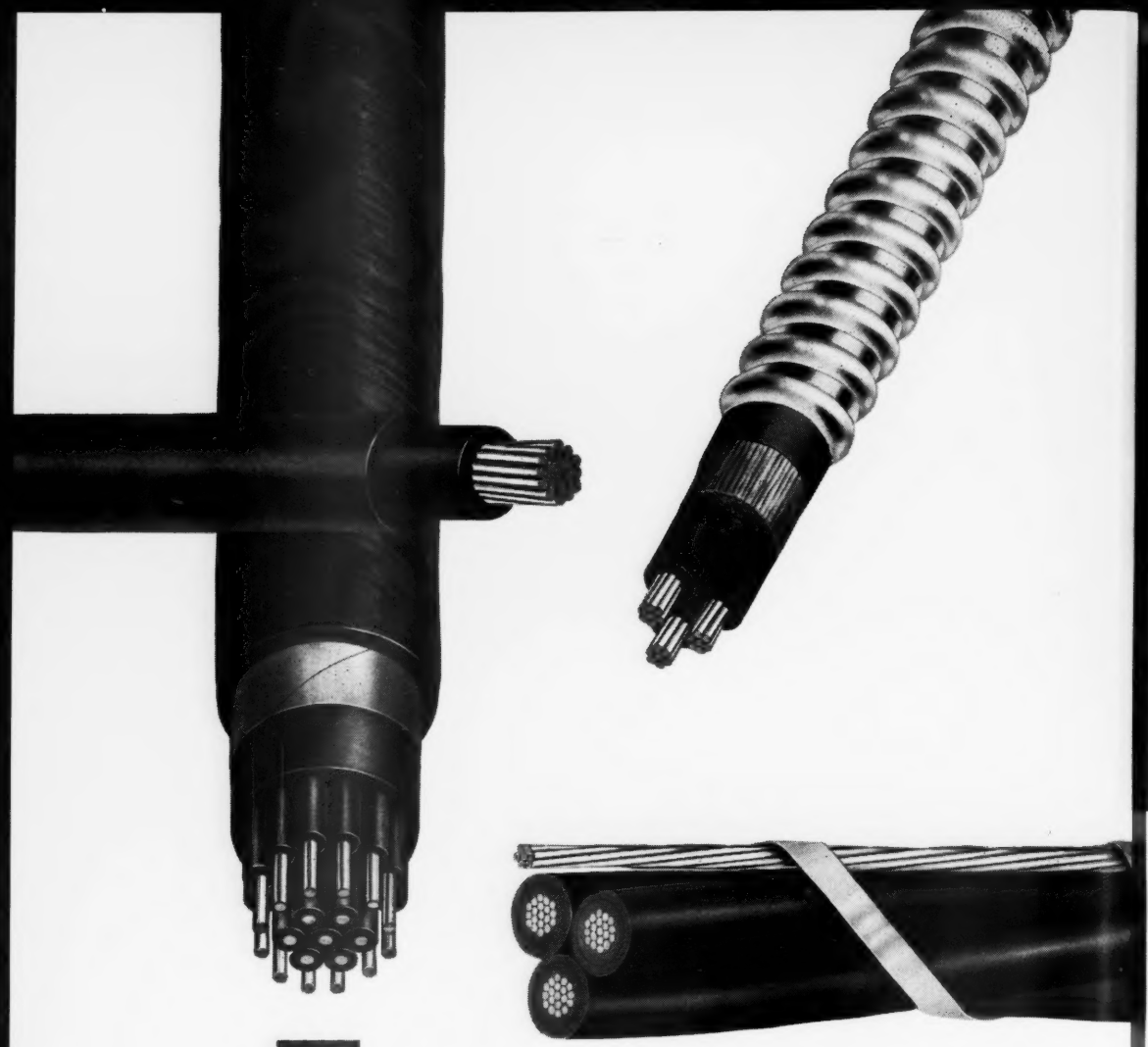
John H. Agee, Lincoln, Nebraska
Philip M. Aitken, Lincoln, Nebraska
William I. Aitken, Lincoln, Nebraska
J. Stewart Elliott, Beatrice, Nebraska
Edwin J. Faulkner, Lincoln, Nebraska
Merle M. Hale, Lincoln, Nebraska
L. E. Hurtz, Omaha, Nebraska
H. W. Potter, Lincoln, Nebraska
W. W. Putney, Lincoln, Nebraska
Morton Steinhart, Nebraska City, Nebraska
Charles T. Stuart, Lincoln, Nebraska
Thomas H. Wake, Seward, Nebraska
Frank H. Woods, Chicago, Illinois
Henry C. Woods, Chicago, Illinois
Thomas C. Woods, Jr., Lincoln, Nebraska

1342 M STREET
LINCOLN, NEBRASKA

THE LINCOLN TELEPHONE and TELEGRAPH COMPANY



NEBRASKA'S LARGEST INDEPENDENT



if *it's cable you need...*

—Kerite's the answer. For Kerite's wide range of cable types combines the latest techniques, materials and engineering with an insulation that is unsurpassed in its proven ability to serve reliably for years under the trying conditions of actual operation. Leading engineers will confirm this. We, too, would be pleased to tell you more.

Our headquarters office is at 30 Church St., New York 7, N. Y.
Branches are in Ardmore, Pa., Boston, Cleveland, Chicago, Houston, San Francisco, Glendale, Cal.

KERITE CABLE

it's the **KERITE** *that makes the difference*

$834,000,000 vote of confidence

You'll get an idea of General Telephone's faith in the future from this:

We have budgeted $834 million for a 5-year expansion program.

This program is solidly based on the sound, continuing growth of the regions we serve.

We operate, mainly, outside the overcrowded metropolitan centers. In 30 states, our 1745 exchanges are the nerve centers of bustling areas that are attracting industries and people in quest of room.

That's why we are installing new phones at the rate of 15,000 a month.

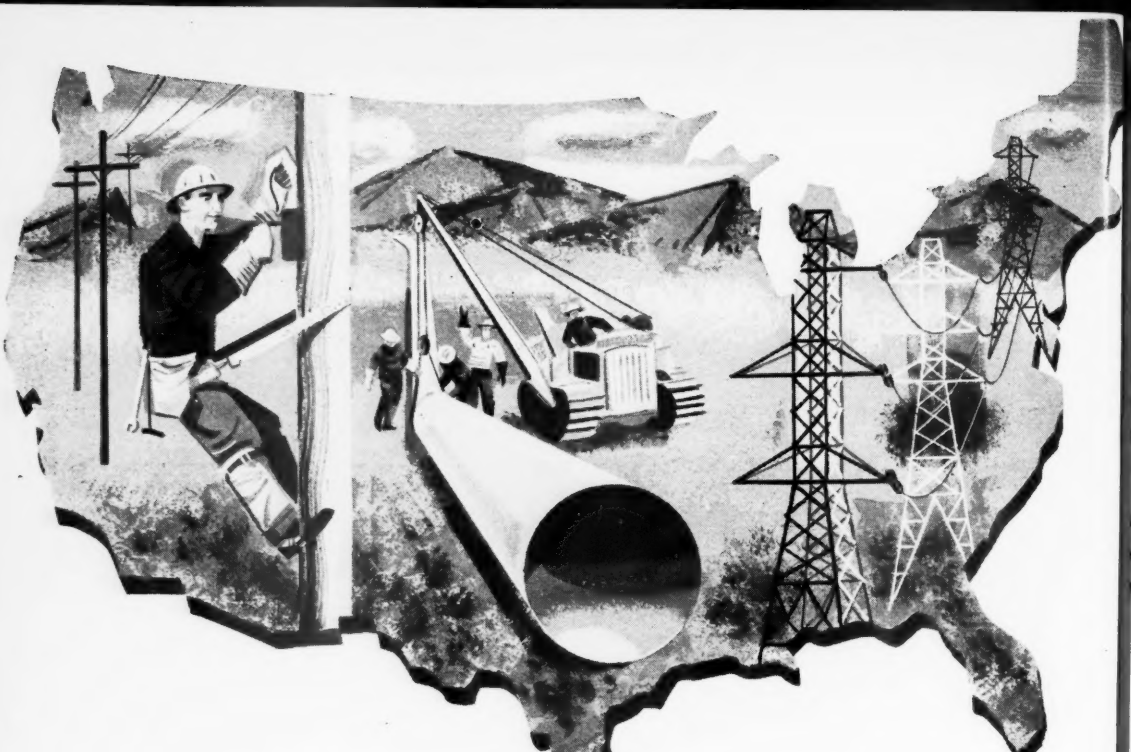
That's why we are investing almost $190 million a year in new construction and facilities.

There's no question about an ever-increasing demand for superior telephone service.

Nor about our determination to supply it.

GENERAL TELEPHONE

America's Second Largest Telephone System



Lifelines of the nation!

Playing a dynamic role in the economy of our nation, the investor-owned Utility Industry continues to expand its lifelines of service. Not only meeting the needs of today's consumers, but preparing also for an atomic age, Utilities are faced with enormous capital expansion requirements.

To assist in the many financial complexities accompanying this growth, Irving specialists are ready with new and sound approaches. Our Analytical Studies, Seminars, and Round Tables, may bring added vitality to your capital planning, financing, or cultivation of the financial community.

For more information, call Public Utilities Department at DIgby 4-3500
or write us at One Wall Street

IRVING TRUST COMPANY

One Wall Street, New York 15, N.Y.

Capital Funds over $130,000,000 — *Total Assets over $1,600,000,000*

RICHARD H. WEST, *Chairman of the Board* — GEORGE A. MURPHY, *President*

Public Utilities Department—JOHN F. CHILDS, *Vice President in Charge*

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

Best Way You Can Keep
Informed on
Utility Regulation:

P.U.R. QUESTION SHEETS

With the least possible expenditure of time, effort and money, *utility executives, lawyers, accountants, engineers* and *others* interested in any *phase of public utility regulation* can keep well informed through these *brief, four-page* leaflets issued every two weeks.

They consist of 10 questions and 10 authoritative answers based on current decisions revealing court and commission views pro and con. Annual subscription $10.

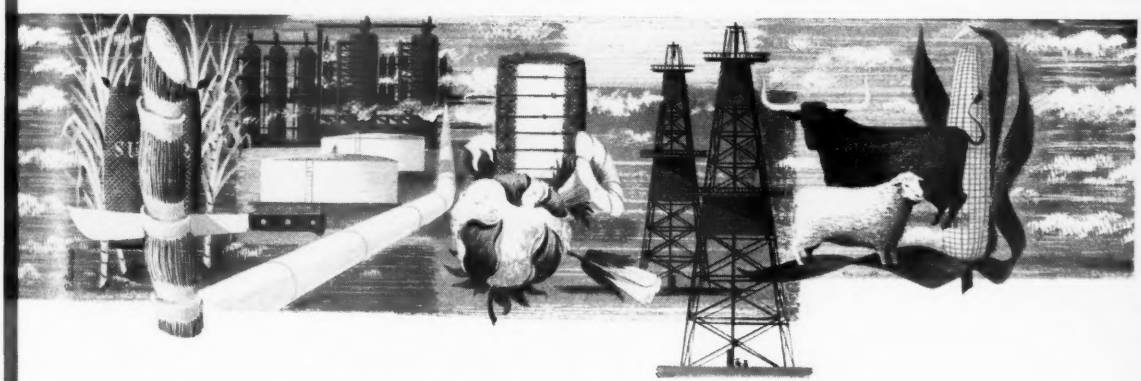
Send your order to

PUBLIC UTILITIES REPORTS, INC.,
Suite 332, Pennsylvania Bldg.
425 13th Street, N. W.
Washington 4, D. C.

Florida Telephone Corporation Serves An Area of Almost 6,000 Square Miles In Central Florida—"Empire of the Sun and Heart of Citrus Land"

One of the larger, most rapidly growing, and most progressive independent telephone companies in the country, in one of the fastest growing sections of the nation.

Operating an extensive network of company-owned local facilities, microwave radio relay and long distance lines, eighteen exchanges and seven rural sub-exchanges in eight counties in the heart of progressive Central Florida.



A year of **PROGRESS** *and* **EXPANSION**

New records were set in revenues and income by Southwestern States Telephone Company during 1957. Operating revenues totaled $10,068,390, up 12.7% over 1956. Despite higher operating costs, net income amounted to $1,265,726, again up 4.8% over the previous year. 1958 again will be a year of expansion with a construction budget exceeding any previous year. Our Annual Report tells you more about our progress and plans for the future. Write for a copy without obligation.

THE SOUTHWESTERN STATES *Telephone Company*
300 MONTGOMERY STREET • SAN FRANCISCO, CALIFORNIA

New Dodge Tradesman—a pick-up with side lock

Here's what a leading automotive magazine reports about fuel economy— in the 3 low-priced trucks

The best way to compare products is to *test* them thoroughly. That's exactly what a leading automotive magazine's test drivers did with *all three* low-priced pick-up trucks. The results are revealed in a recent issue. One important result was that the Dodge V-8, even with its extra power, gave better gas mileage than the other two V-8's tested.

Here are some of the statements reported in this magazine about the Dodge *Power Giant* pick-up:

First in economy! The magazine reports on overall gas mileage, "In spite of the lowest gear, 4.11, and the largest displacement engine, the Dodge proved to be the most miserly, averaging 13.5 mpg."

First in payload! The article says, "All t drivers agreed that the Dodge was the best equipp of the three when it came to carrying a good loa

First in power! The magazine states, ". . . Dodge had quite a hill climbing advantage over other trucks."

First in styling! No mention of styling was m in the magazine's report, since it was a *performa* test. We'll leave that comparison to you—confid that you'll rate Dodge number one.

Make your own test of the four-way leader of low-priced three, at your Dodge dealer's. Do it so and get his special 40th-Anniversary deal!

4-way leaders of the low-priced 3 **DODGE *Power Giants***

UTILITIES *A·l·m·a·n·a·c·k*

OCTOBER

Thursday—9 *California Natural Gasoline Association begins annual fall meeting, Pasadena, Cal.*	**Friday—10** *New England Gas Association, Heating Group of C-H-I, begins meeting, Sturbridge, Mass.*	**Saturday—11** *Alabama Association of Broadcasters ends two-day meeting, Tuscaloosa, Ala.*	**Sunday—12** *American Transit Association begins annual meeting, New Orleans, La.*
Monday—13 *American Gas Association begins annual convention, Atlantic City, N. J.*	**Tuesday—14** *Edison Electric Institute, Electric System and Equipment Committee, ends two-day meeting, New York, N. Y.*	**Wednesday—15** *United States Independent Telephone Association ends three-day national convention, Chicago, Ill.*	**Thursday—16** *Pennsylvania Electric Association, Prime Movers Committee, begins meeting, White Haven, Pa.*
Friday—17 *Wisconsin Utilities Association ends three-day electric and gas sales operating convention, Milwaukee, Wis.*	**Saturday—18** *Missouri Broadcasters Association ends three-day meeting, St. Louis, Mo.*	**Sunday—19** *American Water Works Association, Florida Section, begins meeting, North Miami Beach, Fla.*	**Monday—20** *National Safety Congress and Exposition begin, Chicago, Ill.*
Tuesday—21 *Pennsylvania Electric Association, Communications Committee, ends two-day meeting, Philadelphia, Pa.*	**Wednesday—22** *Air Conditioning and Refrigeration Wholesalers begin annual meeting, San Francisco, Cal.*	**Thursday—23** *American Water Works Association, New Jersey Section, begins annual meeting, Atlantic City, N. J.*	**Friday—24** *Oklahoma Utilities Association begins accounting conference, Bartlesville, Okla.*

Courtesy, The Mountain States Telephone and Telegraph Company

Talking Tower

Typical of the radio relay towers mushrooming throughout territory of The Mountain States Telephone and Telegraph Company is this 112½-foot "Talking Tower" near Tolston, Montana. Building shown houses amplifying and control equipment to step up current.

Public Utilities
FORTNIGHTLY

VOLUME 62 OCTOBER 9, 1958 NUMBER 8

Independent Telephony And Its Expanding Horizons

By HUGH A. BARNHART*
FIRST VICE PRESIDENT, UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION

WELL AWARE of the many problems it must solve to meet the challenge of population growth and an expanding economy, the independent telephone industry nevertheless faces the future with optimism. It predicts service to 25 million telephones by 1975—more than double the number it expects to have in operation by 1960.

THE United States Independent Telephone Association will soon enter its sixty-second year of existence. It has had a great history. It has been a constructive and vital force in many ways on many fronts. Its current program of activities, carried on by a board of directors, 32 committees, and the Washington staff, is the largest ever embarked upon. Thus it is an appropriate time to appraise briefly the past and present of our organization and to project its future in the light of the industry's rapidly expanding horizons.

*Also president of Rochester Telephone Company, Inc., Rochester, Indiana. For additional personal note, see "Pages with the Editors."

First, why do we have an association? An association comes into existence because it fills a need. That need was present when USITA was organized just before the turn of the century when we had some 6,000 companies operating a million telephones. That need is present today when there are 4,000[1] companies serving nearly ten million telephones. In fact, the need for an association is greater than it was six decades ago for many reasons. The need for the association stems not only from economic and political factors but also from the desire of people to associate with like-minded people in a similar business.

That is why we hold annual conventions like the one to be held in Chicago this month (October 13th-15th) when more than 3,000 men and women, all key people in their companies, will gather under one roof to learn about recent innovations and new techniques in the communications field, and to view exhibits of the latest inventions of modern telephone equipment and gadgetry.

Who Does USITA Represent?

THE United States Independent Telephone Association represents the interests of 4,000 small, medium, and large telephone companies in the United States, Alaska, Hawaii, and Puerto Rico. These companies operate 9,930,000 telephones through 10,795 exchanges in the United States. They have a total plant investment of nearly $3 billion and annual gross revenues of $725 million. Ninety-three companies have a gross annual income of more than $1 million. The largest independent telephone company has an annual gross of $80 million and the smallest company has an annual gross income of $3,000.

The USITA is a democratic institution. Our membership is made up of commercial companies which do their financing through private enterprise, companies which borrow funds from the REA, cooperatives, and farm mutuals. About one out of every seven telephones in the United States, including its territories and possessions, is owned and operated by an independent (non-Bell) telephone company. Of the 64 million telephones in operation today nearly ten million are operated by independently owned companies which serve more than half of the geographical area of the United States.

Today there are no areas in the United States where two companies operate competing telephone systems. The Bell system and the independents live in close co-operation with each other, providing the best telephone service in the world to their respective subscribers.

Independent but Interconnected

THE nation's long-distance service is furnished primarily by the Bell system toll network. All long-distance facilities are interconnected with independent telephone company lines. Long-distance traffic between the two segments of the industry is freely interchanged. Agreements are in effect covering routings and divisions of revenues on the interchanged business.

Many independent telephone companies themselves own and operate a large mileage of toll lines, mostly regional in character, all interconnected with the Bell network and with the toll facilities of neighboring independent companies.

[1] The decline in the number of companies has resulted from mergers and consolidations into larger units.

Independents Pioneered the Dial

THE independent industry has been responsible for a number of major technical advances in the telephone field. The first practical automatic (dial) telephone system was invented by Almon Brown Strowger, a Kansas City undertaker, who evolved a crude but basic idea for an automatic switch with a cardboard collar box, a lead pencil, and a paper of pins. The first commercial application of the dial telephone was made more than sixty years ago in an independent exchange at La Porte, Indiana. A few years later, the independents introduced the first dial telephones in a number of exchanges in various parts of the country. Today, approximately 75 per cent of the telephones of the independent companies are dial operated. Telephone users are also indebted to the independent industry for handset telephones and for direct operator dialing over long-distance lines.

In the period from 1900 to 1909, independents introduced automatic (dial) telephone systems in a number of large cities, such as Chicago, San Francisco, Los Angeles, and Omaha, where independent companies no longer operate—these cities now being served exclusively by the Bell system. There are also scores of the important cities in which independent companies operate exclusively, such as Rochester and Jamestown, New York; Lincoln, Nebraska; Fort Wayne, Indiana; Tampa and St. Petersburg, Florida; and Santa Monica and Long Beach, California.

USITA Performs Many Services

JUST what, specifically, does our national association do to justify its existence? The association conducts toll (long-distance) studies and carries on negotiations with the Bell system looking toward increased compensation to independent telephone companies for use of their lines and facilities in handling interchanged business. Since 1936, annual compensation to independents from message toll business interchanged with Bell system companies has grown from $12 million to approximately $186 million on an annual basis.

The association serves as a first line of defense on the legislative front. It studies legislative proposals affecting the independent telephone industry and makes appearances before committees of Congress. Appearances are made from time to time before government agencies on matters af-

THE *United States Independent Telephone Association performs many services for its member companies. Here are some of them: Toll (long-distance) studies are made and continuous negotiations with the Bell system for increased compensation for use of their lines are carried on. The legislative front is carefully watched and appearances are made before congressional committees on matters affecting the industry. Studies and research on various phases of telephone operation are conducted. And the dramatic story of independent telephony is disseminated to millions of people through advertising and publicity campaigns.*

fecting the interests of our companies, and informal liaison is maintained with all government agencies whose activities concern our business.

The association, through its full-time staff and through its committees, conducts studies and research into various phases of telephone operation. In addition to the staff located in Washington, D. C., the organization's headquarters, committee members are available for consultations on specific problems.

IN May, 1954, there appeared in three nationally circulated magazines and two industry trade publications the first of a series of advertisements designed to better acquaint the telephone-using public with the independent segment of the industry. It was the beginning of a program created to tell the world the dramatic story of independent telephony, setting forth in bold relief the salient facts pertaining to our operating companies and the hundreds of manufacturers and suppliers who furnish them the tools and equipment they require.

The national advertising campaign was designed to emphasize the importance of independent telephony to the American economy, open new avenues of investor capital for plant expansion, give employees a feeling of pride in and a sense of belonging to an essential activity of national scope and significance, and acquaint the American people with the fact that, but for independent companies, the nation's communications network would not be complete.

There is ample evidence that the friendly impact of our printed messages which are still appearing has been felt by millions of people.

Today it is generally recognized that the telephone has become an important and indispensable necessity in our way of life. As the editor of a telephonic publication in Australia recently expressed it:

> It has become increasingly clear in this modern age that the telephone is no longer a semiluxury but is increasingly being taken for granted as a normal amenity of civilized living alongside electric, gas, and water supplies.

Independent's Future Looks Bright

WHAT about the future? What I read and observe leads me to believe that in every way the independent telephone industry's prospects are bright indeed. But, as always since the world began, we are going to have to surmount many obstacles if we are successfully to meet the challenge.

Our postwar expansion program has not been accomplished without some severe growing pains, and today those pains continue as mounting inflation and rapid population growth make more difficult the expansion the telephone-using public demands. But history and experience indicate it will take more serious problems than these to stop our forward movement. For the telephone industry time and again has proved Washington Irving's observation: "Little minds are tamed and subdued by misfortune but great minds rise above it." And it was the immortal Tennyson who observed: "Men, my brothers, men, the workers, ever reaping something new; that which they have done but earnest of the things they shall do."

What about the "things they shall do"? An intelligent look ahead tells us it is upon

Path of Progress Holds Many New Challenges

". . . an appraisal of some of the problems we face is a sobering one, and it points up the fact that we cannot be complacent about the task that lies ahead. Every day our industry is moving more and more from the position of being a voice communication organization to a true communications system, providing facilities for the transmitting of all types of information and data by electrical transmission. These facilities include teletypewriter service, facsimile service, telemetering service, radio channels, television channels, and all other forms of private line services. It is expected that within fifteen to twenty years a substantial proportion of telephones, particularly business telephones, will be equipped with visual adjuncts."

the horizon of the future that the opportunities of the independent telephone industry are brightest of all. We have many signs which we can follow to chart our course.

If present population growth and economic trends continue as they are generally expected to do by the country's leading economists, the independent telephone industry will be serving some 11 million telephones by the end of 1960, and will have in operation some 25 million telephones by 1975. The figures point up the startling possibility that the number of telephones we have in operation in 1960 will more than double during the subsequent fifteen years. With the increase in population anticipated during the years immediately ahead, with the diffusion of this population over the entire land area of the country, particularly in the rural and suburban localities where so many of our companies are located, and with the possibilities of increased usage of telephone equipment promoted by aggressive sales and merchandising efforts, the future of the independent telephone industry looks very good indeed.

On the other hand, an appraisal of

some of the problems we face is a sobering one, and it points up the fact that we cannot be complacent about the task that lies ahead. Every day our industry is moving more and more from the position of being a voice communication organization to a true communications system, providing facilities for the transmitting of all types of information and data by electrical transmission. These facilities include teletypewriter service, facsimile service, telemetering service, radio channels, television channels, and all other forms of private line services.

It is expected that within fifteen to twenty years a substantial proportion of telephones, particularly business telephones, will be equipped with visual adjuncts. Engineers are experimenting in an effort to make closed circuit television, data processing facilities, and other electronic innovations available and economically attractive for short distances.

Prepare for Tomorrow Today

IF we are to provide a complete communication service in the areas which we serve, we must continue our planning and preparation to meet these anticipated future demands. The movement of industry, particularly light industry, away from the large cities and metropolitan areas and the concentration of the control of various types of machinery will require many different special line services. We are not waiting to be pushed into providing such service but have begun to make market surveys which will keep us informed of what is coming next.

OURS is a regulated industry and it is important that those in regulatory positions realize our situation and permit telephone companies to have sufficient earnings so that they may properly compete with nonregulated businesses in the financial markets. Expanding demands for more and more telephone service can be satisfied if regulatory commissions give realistic recognition to dynamic growth and customer needs. Independent telephony has many great responsibilities but there is every indication that our companies are facing up to them. I know that the march of progress will find us ready, willing, and able to do the job.

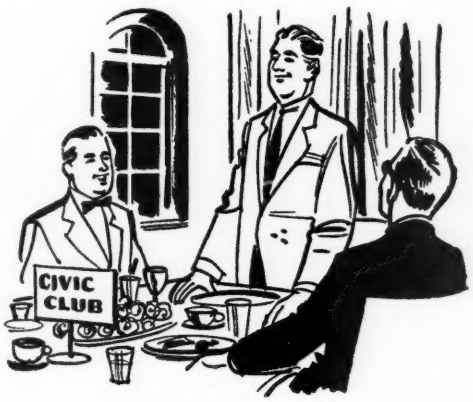
As our industry prepares through new technological advances to meet the increasing communications needs and as the United States Independent Telephone Association is about to enter upon another year, I am reminded of what William Lyon Phelps once said: "A well-ordered life is like climbing a tower; the view halfway up is better than the view from the base, and it steadily becomes finer as the horizon expands." It looks as though our horizons long will continue to expand!

"EVEN if we consider that the increase in the quantity of people is one of our most serious contemporary problems, it is comforting to realize that the INCREASE IN THE QUALITY OF PEOPLE*—their knowledge and vision, their skills and adaptability—can be our eventual salvation."*

—THOMAS PATTON,
President, Republic Steel Corporation.

Forward Look in Communications

By R. KARL HONAMAN*



The great improvement in telephone service which the American people enjoy today has stemmed from the significant results obtained through research and development in communications. As new technology replaces present facilities, new capital in vast amounts must be obtained to give the public the products thus made possible.

THE "forward look" in communications, and particularly in technology, is an area of interest to people everywhere. Though most of us may be unaware of it, technological progress in the United States reached a climax in 1882. At that time the Commissioner of Patents reportedly said that every major development possible in this world had already been patented. From the early 1880's on, he said all patents granted would be mere improvements of existing inventions.

Luckily, scientists and engineers were unaware that our technology had reached its culmination. They continued to work, and continued to come up with developments which impressed the Patent Office sufficiently so it continued to grant patents. In the years following there were bountiful harvests of inventions which further improved and enriched our way of life. Notable among them in the subsequent few decades were the airplane, the gasoline automobile, motion pictures, and radio—all of which had a significant impact on the lives of the people of the world.

IN addition, during the following decades there were important discoveries in the fields of light and power. There was the conversion from direct current to alternating current, the change from steam engines to steam turbines in the generation of electric power, and the increased use of water power as a source of electrical energy.

In transportation too, research meant progress. Railroads adopted such safety devices as the automatic coupler in 1887, and automatic signaling in 1893. By the late 1880's the electric trolley car was in use on a large scale in many cities. Within a few years there were many different models of automobiles available, and it was in 1908 that Henry Ford began the mass production of the famous model "T." Even the bicycle could not escape the march of progress. It adopted a number of improvements, notably the pneumatic tire.

*Director of Publication, Bell Telephone Laboratories, New York, New York. For additional personal note, see "Pages with the Editors."

Telephony Inventions

IN this age of progress there were also significant advances in telephony. One technical breakthrough of special significance occurred in 1906 when Lee de Forest invented what he called the audion, the forerunner of today's electron tube. The electron tube, important in many industries, has served the telephone industry primarily, though not solely, as an amplifier. It makes possible the transmission of voices over great distances. In this rôle, the electron tube has become one of the two devices which form the backbone of the telephone system as we know it today.

The second device which plays a major rôle in our telephone system is the electromagnetic relay, developed in the early part of the nineteenth century and used in communications systems since that time. More than 300 million of these relays are operating in the Bell system today, routing calls from one telephone to another. Unerringly, the relays open or close to form the correct electrical path which allows you to reach the proper party when you call. A central office serving 10,000 customers would have as many as 65,000 of these relays, and in a single interoffice call, 1,200 of them might be called into action. The relay is capable of millions of operations in the course of its life and is an extremely reliable device.

IT would be impossible, of course, to say that any two devices are wholly responsible for the success of the complex mechanism which is today's telephone system, but the electron tube and the electromagnetic relay could certainly qualify as two of the most prominent and vital parts. In addition, many other devices and many new materials were brought into service in the telephone plant.

In short, the latter years of the nineteenth century and the first part of this century have brought us magnificent contributions that enrich our way of life. But on the basis of experience and observations, I am convinced that what is past is merely prologue—that the future will see miracles of science unfold at an even faster rate than ever before.

This is true broadly in American industry where the technology in many cases is leaping ahead and where I am sure great progress in new devices and materials will soon make our past achievements seem quite ordinary. The fact is that American industry could not meet its present demands for goods and services with the technology of thirty years ago.

The Technological Future

BUT we are still talking about the telephone systems of the past and the present. What about the future? What have the years of research and study produced that will be of benefit to the users of tomorrow's communications systems? Bell Telephone Laboratories, the laboratories of the telephone companies, is of course deeply concerned with the technological future. It is their responsibility to determine future demands of the communications system, often before these demands actually exist.

It would not be possible to provide 1957 communications with the technology of the 1920's. The transmission paths now occupied by many telephone conversations simultaneously through the principle of carrier operation would require wholly impracticable amounts of copper wire cir-

cuits. The switching of telephone calls by hand would call for a number of operators, probably beyond our capacity to recruit and train.

Yet, the advent of new devices and, particularly, mechanization have not reduced the availability of work in industry for our people. Citing as one example, again from the communications field, in the 1920's when the first dial system was installed, there were less than 400,000 people engaged in Bell system service. In 1957 we had passed the 90 per cent figure of dial development and work is now provided for approximately 750,000 people —an increase of 2 to 1 while the dial development has advanced from 0 to 90 per cent. We see here what has happened—the machine has made it possible to do much more and to give much better service.

Solid State Physics

LET us turn for a moment to the future of electronics. The results of research in the field of solid state physics will have a tremendous impact on our future. We mean here the discovery of new knowledge about what happens inside solids. This work has already given birth to the transistor, which though born in Bell Telephone Laboratories has been nursed to its present maturity by scientists and engineers in many laboratories. Although it is only ten years old it has become one of the leading forces in an electronics boom and is in considerable part responsible for raising the electronics industry from a $2 billion-a-year level in 1946, to a $12 billion-a-year level in 1956.

While already a large number of different transistors have appeared, the end is nowhere in sight and the performance of useful functions by these devices and others related to the same basic research will enliven the electronics future.

FOR our present purposes we might consider this research into the solid state from the standpoint of what the physicists know as a semiconductor. A semiconductor is a curious material somewhat of a cross between a conductor and an insulator. It will carry an electric current but with only one one-hundred thousandths of the efficiency of copper. Yet it is not an insulator because it has only one one-hundred thousandth of the effectiveness of glass as an insulator. Silicon and germanium are the two principal semiconductor materials used in these solid state devices at this time.

¶ "THE *first electronic exchange is scheduled to make its appearance at Morris, Illinois, in the year 1960. While it is fairly simple in appearance, it will perform extremely complex functions. It will be endowed with a memory and will be able to analyze situations, apply logic, and then act—all with incredible swiftness. Where our present system, using relays, can perform some electrical functions in thousandths of a second, electronic components will perform similar functions in millionths of a second. Faster service means central offices will need less common control equipment . . .*"

For a long time scientists had been trying to discover how electricity behaved in a solid—what was happening among the atoms and electrons inside. They knew pretty well how it behaved in liquids or gases, but it was much more difficult to determine what went on in a solid. It is possible, of course, to cut a solid in half, or bore a hole in it. But this is not much help because when you are finished what had been the inside is now a surface. So, you are right back where you started.

Another device which resulted from knowledge gained in the transistor study is the silicon diode. This diode as a power rectifier is attracting wide attention from engineers in many fields.

Despite the trend toward miniaturization, power rectifiers had remained large, limited in efficiency, and bulky. With the development of the silicon diode, a silicon wafer only five one-thousandths of an inch thick, and one-tenth of an inch square was able to perform the same job as a device many times as large. Two of these silicon power rectifiers, about the size of two peas, can furnish more than 20 amperes of direct current at 100 volts. This amounts to 2,000 watts—with only 20 watts lost through heat—an efficiency unequaled by previous rectifiers.

Solar Battery

Another invention stemming from the original semiconductor study is probably familiar to many of you. This is the Bell Solar Battery—the device which converts sunlight into electrical energy. Extensive field tests have shown that the solar battery can supply enough power to efficiently operate a rural telephone system. The battery is also used to power portable beach radios, and the armed forces are testing it as a power source for small mobile military radios. Now it is understood that solar batteries such as these are being used to power certain radio equipment in the Vanguard satellite.

Costly materials and difficult fabricating techniques make the solar battery economically impractical as a source of power for present telephone systems. However, as manufacturing techniques are improved, and as the cost of the raw materials goes down, the solar battery may yet prove to be an important source of power. This may be particularly true where only small quantities of electricity are needed, and where commercial power is not available.

Advantages of Semiconductors

The semiconductor devices I have mentioned have certain things in common which make them valuable as components of communications systems. First of all, they are small in size, permitting more compact design of equipment. Second, they operate on very small amounts of power. Third, they do not give off much heat, so they can be safely installed in small areas which do not have cooling air circulation. And next, they have no parts to wear out; so theoretically their life span is almost unlimited.

We have been talking here about devices, but this only gives us one side of the story that research is playing in the new world of communications. All of these new devices demand new fabricating skills, and a more thorough understanding of materials than had ever been reached before. It required teamwork among a great many people to develop the materials which permit these semiconduc-

Past Is Merely Prologue

"It would be impossible, of course, to say that any two devices are wholly responsible for the success of the complex mechanism which is today's telephone system, but the electron tube and the electromagnetic relay could certainly qualify as two of the most prominent and vital parts. In addition, many other devices and many new materials were brought into service in the telephone plant. In short, the latter years of the nineteenth century and the first part of this century have brought us magnificent contributions that enrich our way of life. But on the basis of experience and observations, I am convinced that what is past is merely prologue—that the future will see miracles of science unfold at an even faster rate than ever before."

tor devices to operate. Chemists, physicists, metallurgists—these are a few of the scientists who have contributed to the understanding of semiconductor materials.

New Skills Are Born

A good illustration of the new skills required in this work is the zone refining process. This process was developed to refine germanium, silicon, and other materials to the almost perfect purity required in semiconductor work.

The process is based on the fact that impurities are not equally soluble in the solid and liquid states of a substance. Impurities are more soluble in the liquid state. To take advantage of this fact, an ingot of the material is passed through the coils of an induction heater, forming a narrow molten zone. As the ingot is slowly passed through the heater, the nar-

row molten zone moves the length of the ingot, sweeping the impurities with it and concentrating them at one end. There, the piece of ingot containing the impurities can be cut off. The remaining material may well be the purest substance in the world, for it contains only one atom of impurity to 10 billion atoms of the material. This is about the same as one pinch of salt in 35 freight cars of sugar.

The Electronic Exchange to Be Unveiled in 1960

WE mentioned the part played by the electromagnetic relay in our telephone system. Soon now, you will be hearing details of an entirely new concept in switching—an electronic telephone exchange.

Electronic switching is made possible in part by the transistor and other new devices developed by solid state researchers.

The first electronic exchange is scheduled to make its appearance at Morris, Illinois, in the year 1960. While it is fairly simple in appearance, it will perform extremely complex functions. It will be endowed with a memory and will be able to analyze situations, apply logic, and then act—all with incredible swiftness. Where our present system, using relays, can perform some electrical functions in thousandths of a second, electronic components will perform similar functions in millionths of a second. Faster service means central offices will need less common control equipment—this is the equipment used in routing your call through the central office and to the party you are calling.

The electronic switching system will have skills permitting it to perform truly remarkable feats of memory and action at extraordinarily high speed. For example, a tube which has been demonstrated is capable of storing 16,000 bits of information for temporary memory. These bits can be stored in the memory in about a millionth of a second. Similarly, these can be read out when needed in about a millionth of a second or, when no longer useful, they can be erased and replaced by other information.

THE machine will be able to examine each line of a 10,000-subscriber office at the rate of ten examinations per second to determine which lines require service and what dial impulses are being transmitted to the switching system.

Because of the availability of these rapid functions we should expect to see central offices five or ten years hence with smaller dimensions than those now required to perform the same functions. But more particularly we hope to be able to provide many new and, we believe, desirable services for our subscribers which are not either practical or economical with present-day equipment.

Other Telephone Improvements

ANOTHER improvement which you may find in the telephone of the future is a more pleasing calling signal. Experiments have been conducted for some time with a musical tone ringer which could eventually replace the telephone bell. During these experiments hundreds of opinions have been sought to determine which tones give reliable, pleasing signals. Work will continue until a final answer is reached.

One of the things the people at Bell

Laboratories have learned is that scientific investigations in one area can often lead to exciting and important discoveries in a totally different field. Some years ago, for example, an engineer noticed that a particular piece of telephone equipment had developed a short circuit. A close examination disclosed that a tiny piece of metal was acting as a conductor between two parts. A more thorough study showed that the metal used in the equipment had actually sprouted whiskers, and that the whiskers had caused the short circuit. This bit of information was of great importance in designing later models of that equipment.

But the research program did not stop there, even though an immediate solution had been found to the whiskers problem. Careful laboratory examinations have been made of the metal whiskers—in all, about 3,000 samples of various metals are being tested at our Murray Hill Laboratories to find out which ones will grow whiskers and what properties the whiskers may have.

You would probably like to ask what growing metal whiskers had to do with the telephone business. As a matter of fact, it may have a great deal to do with the telephone business—and with many other businesses. Metallurgists have known for some time that many metals theoretically should exhibit properties superior to those they now show. In the whiskers study we have already found out that some of the whiskers show these theoretical values. When more is known about the growth, structure, and physical properties of these whiskers, it may be possible to apply this knowledge in producing metals which actually are superior in strength and durability to today's metals. It frequently happens that answers to one problem generate still more problems.

Research Is Practical, Too

Scientists and engineering researchers are often accused of being ivory tower dwellers, insulated from and oblivous to the problems and realities of everyday life. This, of course, is not true. They are dreamers and men of vision it is true, but they also know how to meet the difficult problems that constantly arise.

In the early days, before the telephone industry reached its present complex state, each pair of telephone wires carried one message at a time. It was obvious that as the demand for telephone service grew, many more pairs of wires would have to

¶ "A LABORATORY *should not be thought of as a place where pieces of equipment are produced. It is a place where ideas are produced. Everything we use, from the simplest device to the most complex, had to exist first in the mind of someone before it could be embodied in a useful piece of equipment. So our technological future is inextricably tied up with the ability to produce new ideas and to convert them into useful forms where they can become 'work horses' in the service of our dynamically growing standard of living.*"

be installed to handle the increased traffic. It was also obvious that, because of the distances involved, costs would be prohibitive if each pair of wires could carry only one message at a time. By modulation of a high-frequency wave it is possible to transmit many messages over a single pair of wires by sending each message at a different frequency. These are the modern carrier systems.

Early carrier systems, operating over open wire lines, allowed three or four extra conversational channels on each pair of wires. Today, as many as 16 conversations can be carried on a single open wire pair. More important, perhaps, is the fact that carrier techniques have been applied to cable, making it possible for a single cable pair to carry 12 to 24 telephone conversations instead of only one.

And in the search for better transmission methods a new cable system was developed. This was the coaxial cable system which permits each pair of conductors to carry up to 1,800 telephone conversations, or 600 telephone conversations and one television program. Coaxial cable consists of a small copper tube or pipe, about the diameter of a lead pencil, with a wire supported in its axis by insulating washers.

THE search for more efficient transmission systems also led to microwave radio. Here, our scientists reasoned, was an excellent medium for the transmission of both telephone conversations and television programs. By transmitting at extremely high frequencies, interference and other disturbances which often affect radio could be eliminated. The only drawback was that the microwave radio relay system operated only along a "line of sight." The high-fequency signals acted somewhat like a beam of light and had to be directed in a straight line to the next antenna in the system. This means that radio relay towers in the system usually must be located no more than about 30 miles apart, on the average. However, the system has proved itself and it is now widely used throughout the country.

Coaxial cable and radio relay may some time in the future be supplemented by another method of transmission currently being studied. It utilizes the circular wave guide, which in appearance is nothing more than a copper pipe about 3½ inches in diameter. Scientists have learned that extremely high-fequency waves can be transmitted over wave guides, with a very slight loss of energy. Such systems, superhighways of communications, may some day carry several hundreds of thousands of telephone messages or hundreds of television programs simultaneously. Tests are still under way to determine what part wave guides can play in our communications future, if and when, of course, the need for such large capacity facilities is indicated.

Radio Relays over the Horizon

I MENTIONED above the "line of sight" transmission principle, common in our radio relay systems. For many years scientists believed that radio waves in the higher frequencies had to be aimed directly at their target, the receiver. Recently, however, they discovered that the old theory is not wholly true. They found that, in many cases, some of the energy in the ultrahigh-frequency waves overshot the relay towers they were aimed at, and arrived at more distant points with great consistency. By erecting larger antennas, and using higher

power than is employed in conventional microwave systems, scientists have been able to provide long-distance transmission "over the horizon" for distances up to and beyond 200 miles. Perhaps some readers saw the television program which was broadcast directly from Cuba to the United States using this "over the horizon" technique. The "over the horizon" technique may play a large part in helping to draw the peoples of the world closer together.

IN past years technology has lifted much of the burden from man's muscles; now as we look ahead we see opportunities to relieve him of the drudgery of routine mental tasks. This is brought about by a new form of communication—machines "talking" to machines—with information of many kinds flowing over wires in the form of electrical impulses or digits. Also, this same form of transmission can be used to transmit pictures or voices. By sampling an electrical wave representing a voice, frequently enough, we may send by coded electrical pulses a complete description of it and recreate it with high accuracy. While this has some advantages, it may require sending more than 100 million such pulses over a circuit each second and this is within the realm of future possibility. In fact, the day may not be far off when our telephone circuits may transmit more information in the form of coded electrical pulses than by electrical voice waves.

New Must Adapt to Old

ANOTHER point I think will be of interest is: The development job for a nation-wide communication system cannot be carried out in a vacuum. New equipment must work compatibly with that which is already in service because literally the entire network for switching telephone calls functions as a single operating mechanism. A subscriber turning the dial of his telephone in Newark takes control of the switching mechanism in San Francisco and it does his bidding. While there is not space to discuss this point exhaustively, it *is* of interest that all of our new developments must be made in the light of compatibility with existing plant.

A laboratory should not be thought of as a place where pieces of equipment are produced. It is a place where ideas are produced. Everything we use, from the simplest device to the most complex, had to exist first in the mind of someone before it could be embodied in a useful piece of equipment. So our technological future is inextricably tied up with the ability to produce new ideas and to convert them into useful forms where they can become "work horses" in the service of our dynamically growing standard of living.

Basic Research, Scientists Needed

PROGRESS in technology is the result of new knowledge coming originally from basic or fundamental research—new discoveries about nature's laws and her processes. It is likely that, in the future, progress will be made at about the rate that the development of new knowledge will permit, and it is from this consideration that stems the concern as to whether the country is producing creative scientists and skilled and imaginative engineers as rapidly as we should. We shall not take the space here to explore this question fully. Many are familiar with it, and many

words have been written about it recently. The question is brought into sharp focus because of the technical competition with which we are now confronted from behind the Iron Curtain. Assuming our country should have the benefit of as much of these skills as we can produce, the question arises, how can this be brought about?

Much that has been written is based upon the view that lack of schools and competent teaching backed up by inadequate pay are at the root of our failure to produce an adequate number of engineers and scientists. I would not challenge this, but would add the additional thought that, ultimately, the solutions to these problems lie in the hands of the people themselves, who are at once the parents and guides of our youth and also the determiners of what their educational program should be. So I submit that we have an important problem in informing the public about the needs of our technology for the future. We need also to provide the leadership required to bring about an understanding of this need and to stimulate people to act upon their understanding.

SOME recent figures indicate that only 3 per cent of the funds that industry has made available for research and development has gone into basic research; that is, the production of new knowledge. There is every reason to believe that our country is headed into a period of dynamic growth and still further improved living standards. In this situation the American public will expect and will demand continual change and improvement of service and product from all industry. Scientific research will require large amounts of money, yet this is the kind of money that can only be made available as insurance against the long-range future. Industry will need to keep itself financially healthy and sound if it is to do its part in nurturing and supporting research. For the long pull, this is the process by which our standard of living will be increased and new knowledge in the form of products and services made available to the public.

New Product Capital

ONE further point. The new products flowing from technology will not get into the hands of the using public, except by the investment of very considerable amounts of capital by the service and productive companies. The advances in technology will also, in some instances, accelerate the pace at which facilities become obsolete.

Looking again at the telephone situation, you may be surprised to realize that during the past year the Bell system has required new capital at an average rate of $100 million a month. I think we may assume, as we look ahead, that the results of the new technology will continue to make it necessary for industry to find large amounts of new capital money.

One of the most significant results of the work of research and development in communications we have been discussing, has been the very great improvement in telephone service which has been made available to the American people. We are all familiar with the fact that much of this improvement has come about during a period of continuously rising prices. Research and development have helped to prevent costs from rising as much as they otherwise would have if this work had not been done.

Finding New Telephone Customer Contacts

By JAMES H. COLLINS*

Most subscribers like direct dialing, mechanization, but some miss the old switchboard humanities. So, now we have the Telephone Town Meeting, and the Cutover Breakfast, and, strangely, the Resident Employee Meeting — for easing the transition to a mechanized service basis.

SOMETHING like a milestone was set up on the highway of telephone progress two years ago, when the New England town meeting was adapted to subscriber relations in the Berkshire village of Worthington, Massachusetts—516 population, 211 telephones at that time.

The village had been converted to dial for some years, and subscribers liked its convenience. At the same time, they felt like a baby left on the doorstep, because all human contacts were cut off. This had been a country neighborhood, served through a family-operated switchboard. With dial, its toll calls, questions, and problems went to Northampton, 20 miles away.

The only telephone person entering the district was an installer-repair man, whom nobody talked with during his two-day visit each week.

Worthington is as typical a Yankee community as they come. The poet Bryant was born in nearby Cummington. Dr. Russell Conwell, famous for his inspirational lecture, "Acres of Diamonds," and founder of Temple University, in Philadelphia, was born and lived in South Worthington.

The writer once had a summer home in Worthington, an old farm, and some of his recollections may serve to picture other dial-isolated towns, hundreds in New England, thousands in the nation, where telephone management is earnestly trying to restore human contacts.

WORTHINGTON'S service then was party line, with magneto sets, hand cranked, of the kind now being sought for

*Professional writer, resident in Washington, D. C.

collections. The switchboard was tended by Mr. and Mrs. Cole, in their home, and was a news center as well—if anything happened, they would know what, and where, and to whom.

Mr. Cole could be seen driving along the dirt roads, with his old horse, looking up for crosses and tree interference. That is natural forest country, where trees fight to restore the wilderness, and Thoreau's wild apples grow in every fence corner. It was a not-too-prosperous, small dairying country, that had known better days before the war. Grandma Witt, who was ninety, said that when the bright boys came back from the war—the Civil War, that was—they went Out West, leaving the bright girls and the dull boys behind.

Every fall, when wild apples lay on the ground, cows would leap almost any fence to booze up on the rotten ones not gathered for cider. With their hang-overs their milk went off. "A cow is a born drunkard," said the farmers.

Neighborly Phone Service

THE telephone was a neighborly institution. Nobody gave any thought to who owned it. Perhaps it dated back to Mr. Bell, in Boston, where the general court sat, some company or other. Mr. and Mrs. Cole did not own it, of course, but they *were* the telephone, they, their predecessors, and successors.

When the switchboard disappeared, all that Worthington had in the way of a visible telephone center was the small brick building that housed the dial equipment. Power company, as well as telephone, engineers take considerable pains to design outlying stations in harmony with the architecture of the community, and this structure in Worthington follows the general feeling of the New England town hall, brick with its white trim. But it is so small that there is room for only one window, and the doorway has no white pillars, nor one of the beautiful fanlights that local carpenters still knew how to build in that day. It might be taken for a powder house. It is definitely the place where the robot lives.

From time to time, New England Telephone & Telegraph had complaints from Worthington, and they had merit. Somebody in that company hit upon the idea of adapting the historic town meeting to the discussion of customers' problems.

The New England town meeting dates back more than 300 years, and was meant to be "A day of liberty for the orderly agitation and redressing of any grievance that may be discovered." It is still that, a living institution, and proved to be just the ticket for townspeople and telephone managers to get together. The wire chiefs, chief operators, and engineers sat up front, plainly labeled, and some 200 subscribers and residents stated their grievances and asked questions. Since then, the town meeting has been found effective in other communities over the land, even cities.

IN switchboard days, Worthington got the correct time from its operator. Electrical storms often stopped the town clocks. When they asked Northampton for the time, they were told that the company had a rule against giving it. So, there was the Northampton chief operator, right before them, and they could ask her about it. She found a way to give time service during electrical storms.

Transmission to Cummington, five

miles away, was poor. Engineers said that they would improve it with added repeaters, whatever those were.

Summer visitors are a source of revenue to that hill country, but when they were there it was hard to get through to Northampton, because they kept the lines busy. Engineers earmarked that complaint for added trunks.

One subscriber felt that the town was being overlooked in company plant extensions. The engineers reviewed construction plans that would involve expenditures there, including a $38,000 cable job coming right up.

Subscribers who wanted higher grades of service heard that they would be available in a few weeks.

Others asked why Worthington's public telephones had no dial equipment, and were told that equipment costs were the reason—the town had three public stations.

Trees interfering with transmission was brought up—there was a co-operative brush-spraying plan a-cooking, town and company sharing the costs.

Town Meeting Popular

WHEN a town meeting was staged in a city area, the customer response was just as good, the give-and-take with telephone supervisors just as interesting and worth while, and there were comic angles. Mothers worked out a baby-sitting scheme to allow them to attend. Another meeting was canceled to make the hall available. The session took three hours, and Boy Scouts served coffee and sandwiches.

THIS was a meeting of residents of a South Boston housing project, and they came with fire in their eyes. Until just lately, South Boston had been regarded as an area where no further growth was was likely. Then a new highway brought new residents and merchants. They all wanted telephones, and close to 10,000 subscribers piled up on an overloaded exchange. Mechanization entailed four number changes in seven years.

Engineers found that a new exchange building would cost $2 million, but that a $128,000 cable to another exchange would take care of the housing project's service.

"If this were your business, what would you do?" telephone people asked, after explaining the technical situation. The decision of the subscribers was, "Do as you have planned." There were many questions during the Q&A period. One woman was indignant because she always got a buzz when she dialed a certain exchange—a faulty transmitter was spotted.

¶ "MORE *important, management is discovering that mechanization is cutting employees off from one another, and there has come into existence the Resident Employee Meeting. It brings employees together for acquaintance. They have as many questions to be answered as subscribers. They get better ideas of subscriber views and problems, and a better realization of the human basis for dealing with them which is nowadays so important a part of telephone training.*"

"I had a million questions when I came here," said one customer, "but now everything is clear."

It is not only the customers who have been cut off by mechanization, but telephone people themselves. These face-to-face meetings with the people they serve are as enjoyable and educational to supervisory employees. The fact is, they have never been cut off from the customers, because they have not had any contacts with them, unless in their switchboard days.

Resident Employee Meeting

More important, management is discovering that mechanization is cutting employees off from one another, and there has come into existence the Resident Employee Meeting. It brings employees together for acquaintance. They have as many questions to be answered as subscribers. They get better ideas of subscriber views and problems, and a better realization of the human basis for dealing with them which is nowadays so important a part of telephone training.

In the Quincy area, south of Boston, more than eight hundred employees and their families were brought together in a series of meetings for acquaintance and information, and the arrangements for one meeting show how telephone people themselves are being pulled apart.

In one hall, 200 telephone people living in North Quincy and Squantum were gathered, and 200 from Wollaston in another hall. The supervisory management team acting as hosts was split between the halls, so each meeting had speakers to explain and answer questions. A private line between the halls enabled both gatherings to hear all that was said, and viewgraphs in each hall let the audiences see the speakers.

At the moment, Quincy was installing a new accounting office, where 228 employees billed 205,000 subscribers. A National Cash Register billing machine was moved to one hall for demonstration, and fascinated employees — it weighs 600 pounds—but next morning it was back for work.

Judging by national direct dialing, and new automatic equipment coming out of the laboratories, in five years the public can be expected to have become familiar with mechanism. Young people growing up will not miss the old human contacts of switchboard service, because they will never have known them. But for the present, some human adjustments are necessary, and this get-together idea has manifest values.

The old-time barn raising, the quilting bee, are being adapted to mechanization in the "Cutover Breakfast," their spirit still alive, though the big barn timbers are gone, the quilts boughten.

In a rural Idaho town 200 people gathered at half past six on the morning that long-distance dialing began, to watch a mother dial the first call to her flyer son at a Colorado air base. After which there was a barbecue breakfast for everybody.

"These cutover gatherings are really telephone parties, but townspeople work like beavers cooking for them," says a Pacific northwestern relations man.

One town had a reputation for a special sausage, made only at Christmas and Easter, by two butchers. It involved too much work, they said, to be a regular thing. But for a Cutover Breakfast they worked three days to make up 600 pounds.

Phone People Foster Student Businesses

"TELEPHONE people are taking part as counselors to high school students who engage in Junior Achievement projects, under a national nonprofit organization's auspices. While the teen-age boys and girls are still in high school, they are encouraged to form miniature business companies, to engage in such enterprises as they may decide upon. . . . The youngsters look around to see what kind of business they can go into; usually it is manufacturing some kind of product for which they decide there is a demand. Their company is financed by selling shares to fellow students, relatives, friends, stockholders, who will have close interest in their success or failure. Par is usually 50 cents, a couple of hundred dollars the average capitalization."

A power company loaned huge coffee urns and ran in a temporary line to the breakfast spot.

One breakfast was supervised by a local merchant, who took complete charge, and worked so hard that the telephone fellows gave him a check.

"You know, I'm kind of ashamed I took your check," he told them, later. "For that breakfast brought so much extra trade to my store!"

Worth While to Modify Rules

IN these new dealings with people, telephone executives frequently run into company rules, as in the case of the refusal to give Worthington subscribers the correct time. The company appears "stuffed shirt," and on self-examination discovers that it *is* stuffed shirt.

In any organization, rules become necessary when individuals are replaced by groups, departments. A hotel chef cooks a new dish, it proves popular on the menu; immediately it has to be reduced to rules so that other cooks can make it.

A CIVIL DEFENSE unit needed a telephone pole for training purposes. The telephone company had discarded poles, and the equipment for raising them. But company rules prohibited giving away a pole, and using equipment for other than company work. Such rules are necessary —allowing equipment to be used for outside jobs involves financial hazards, liability to accidents, and damage claims. In this case the rules were modified, the pole was erected, and later, when a church needed poles to brace the soil for a parking lot, the company donated nine, and set them. Local managers are being given

more authority to act, as such friend-making opportunities are realized.

Boy Scouts in one town wanted a flagpole to fly the national colors. They had the pole, and could have set it themselves, but wanted a thoroughly modern job. They asked the telephone company's assistance. A pole crew was sent with its truck, and the crew added some first-aid training for the Scouts.

In another town all the employees of a newspaper were to attend the funeral of its publisher, except two switchboard operators. The local telephone manager hesitated before offering to send two company operators to run the board while they attended the funeral, not knowing how such action would fit company rules. However, he took a chance, two company operators volunteered, and he was commended for his decision.

In another town the telephone company was asked if it could do anything to show high school students the value of vocational and scientific training as applied to its own activities. A cable splicer and helper were sent, with a completely equipped truck, and demonstrated the splicing of a talking circuit.

Public Activities Pay Off

TELEPHONE company halls are being opened up to community gatherings. Pages in local telephone directories are taken to list company films and lectures available to local organizations. Telephone employees act as judges at first-aid and other contests, belong to community and service organizations. There are cases where others' rules need modification, as where a fire in a remote mountain region necessitated a call for firemen and ambulances, but telephone numbers were not found. A volunteer fire force and the local medical association were led to post their numbers for such emergencies.

Some of the adjustments now being made with subscribers are undoubtedly temporary. As further mechanization comes, with long-distance direct dialing and the new equipment coming out of the laboratories, subscribers will make their own adjustments. They like the conveniences of direct dialing. There will be young people coming up who have never known any other kind of service—even now, when the town clock stops, they would get the time on radio.

Out of the present period of adjustment, telephone management is learning that employee contacts with customers, and the public, are perhaps the closest link it has with people—and that mechanization is rapidly eroding that link.

Contacts with Public Vital

MOTHER BELL keeps track of employee contacts. In 1945, those having dealings with subscribers in their work—exchange operators, installers, commercial and maintenance men—averaged 1,000 contacts yearly. Those were occasions when a person from the company talked with a subscriber, answered questions, consulted his or her wishes, made a human impression. By 1955 this had dropped to 499, and the curve projected to 1965 will be around 200. These startling figures show that the company, too, is being separated from the customers, as the latter lose contacts.

Three other curves from AT&T customer research show that people are increasingly satisfied with the quality of service, and also with rates. Both curves are rising. Improved service is tangible

in direct dialing of local calls, automatic accounting on nearby toll calls, and is considered worth the money.

But when people are asked what they think of the *company*, the curve of their opinion remains flat. Some think the company has too many rules, such as the ban on attachments to telephones; others say it is too formal, remote—really, what can you say about a *company!*

SOME of the most valuable company assets are not to be found in the balance sheet. They are contacts with people, not only customers, but in community activities where they live.

A wire chief belongs to a service club because he is interested in other fields of business, has friends among the local business leaders, works on the club committees carrying out community projects, has gone to one convention as a delegate—all because that is what he likes. That is definitely a company asset. To his crowd he *is* the telephone guy, the company.

A garage foreman sees beneath the popular notion, that the town's "hot rod" kids are just speed maniacs. Their interest in automotive mechanics can be developed into something for their future lives. He undertakes teaching them safe operation for their souped-up jalopies, and guides them in automotive studies—all off his own bat, because he likes that. This is a definite company asset.

THE town library burns down, and a few townspeople propose that it be restocked with gatherings of books contributed by families, business concerns, local organizations. A commercial manager sees that they are going about the project in an amateurish way, and helps them put on a professional drive, with publicity, teams, daily counts, trophies—all the gimmicks of money raising. He likes it. It is a fine opportunity to apply relations experience to a community cause. People will not forget that when the library burned down, it was a telephone man . . . Another typical company asset of the kind that management is now finding lying all around.

Management is now giving direction to such employee interests, supporting them with company equipment, pointing out their value to themselves as well as the company in reputation, recognition that the telephone company is active in what is called "community living." But they are

❦

¶ "A CIVIL DEFENSE *unit needed a telephone pole for training purposes. The telephone company had discarded poles, and the equipment for raising them. But company rules prohibited giving away a pole, and using equipment for other than company work. Such rules are necessary—allowing equipment to be used for outside jobs involves financial hazards, liability to accidents, and damage claims. In this case the rules were modified, the pole was erected, and later, when a church needed poles to brace the soil for a parking lot, the company donated nine, and set them. Local managers are being given more authority to act, as such friend-making opportunities are realized.*"

not exploited, because they are personal to the employees engaging in them—it is often hard to get information for employee magazines.

Junior Achievement Projects

TELEPHONE people are taking part as counselors to high school students who engage in Junior Achievement projects, under a national nonprofit organization's auspices. While the teen-age boys and girls are still in high school, they are encouraged to form miniature business companies, to engage in such enterprises as they may decide upon. These companies are usually organized in the fall, when school begins again, are wound up at the end of that school year. The youngsters look around to see what kind of business they can go into; usually it is manufacturing some kind of product for which they decide there is a demand. Their company is financed by selling shares to fellow students, relatives, friends, stockholders, who will have close interest in their success or failure. Par is usually 50 cents, a couple of hundred dollars the average capitalization.

The youngsters elect officers and directors, purchase materials, rent working quarters. The national organization has made arrangements for renting power tools, so that operations are on a modern basis. Wage scales are set for working hands; a sales force is set up, with commissions; advertising undertaken—the company pays taxes, as who doesn't?

These young people are seriously in business—and the pickles they get into!

ONE of these student companies decided that telephone directories needed a protective cover, and made up a stock out of aluminum. When all its metal and money was tied up in inventory, it was discovered that the local telephone company distributed a better aluminum cover.

What to do? Some other article had to be found that would convert their covers, or the company would have to go into bankruptcy, its stockholders' investments wiped out, its personnel incurring the stigma of failure in business before ever getting out into the business world. Knowing the confidence of youth, looking forward to the day when it will tackle the outside world, that is real humiliation.

The counselors advised further study of products and markets, to find something else that could be made. Their function is to explain the factors involved in the problem and let the students themselves work out the solution. In this case the youngsters found that their aluminum could be worked over into memo pad bases, that had a broader market than directory covers, and that concern wound up with the best profits of Junior Achievement enterprises in the town.

ANOTHER student corporation decided to make telephone table lamps out of some old handsets that were available. Capitalization was set at $150, wages of five cents an hour paid, and nine lamps were sold at $10 apiece, with orders for more. People seemed never to have enough lamps, especially ones made on odd bases. A profit of $36 was turned on this production.

Running a business? Nothing to it!

But then it was discovered that local handsets were gone. They had to scout around, pay stiff prices for the few that were found. That ate up their profit, and they faced the common business problem

Public Relations Opportunity

"THE town library burns down, and a few townspeople propose that it be restocked with gatherings of books contributed by families, business concerns, local organizations. A commercial manager sees that they are going about the project in an amateurish way, and helps them put on a professional drive, with publicity, teams, daily counts, trophies—all the gimmicks of money raising. He likes it. It is a fine opportunity to apply relations experience to a community cause. People will not forget that when the library burned down, it was a telephone man . . . Another typical company asset of the kind that management is now finding lying all around."

of rising costs throwing everything out of whack.

ON analysis of their problem by counselors they arrived at a common business solution—to refinance. More stock was sold, with a limit of five shares per investor, to soften the possible blow of bankruptcy, of which they now had full realization. However, their market was brisk, taking their quota of three lamps weekly, and they wound up their company paying 10 per cent dividends. Telephone counselors to this group enjoyed the youngsters' awe at receiving $2 pay checks, the first money they had ever earned in that form.

It is hard to say who gets the most experience out of counseling such students. Businessmen and women of considerable ability, with leadership, are volunteers, bringing their production, sales, and management abilities. They pick up ideas of value to themselves, and say that the difficulties that arise in a student enterprise are markedly different from those in their own work. For in regular business there is usually time to find solutions to problems, whereas a student enterprise is to be wound up in about nine months, successful or not.

"It's a good deal like running a business in J. Pierpont Morgan's celebrated glass bowl," says one counselor.

Employee Education

ANOTHER new community link, spontaneous in its origin, and undoubtedly capable of being built into something of value, is popular interest in telephone educational activities.

Mother Bell must be, today, the nation's No. 1 schoolmar'm, with her classes and training courses for everybody, from operators, drivers, and field men, to engineers and executives. This education is vitally necessary to keep pace with technical progress. There must be employees fit for promotion to new jobs, and the only way to get them is through education.

In Galveston, a telephone management seminar, held for two successive years, attended by executives from the southwest area, attracted attention from businessmen. They were interested in what was taught, and through the chamber of commerce asked if they might be permitted to attend the next seminar.

Sharing such facilities with outsiders was admittedly a good thing for the community, and indirectly for the company, but questions of expense, for a regulated business, brought up difficulties. It was suggested that a separate seminar for businessmen be held, with the same university speakers and materials, and the use of the company's meeting place.

THIS plan was adopted. The fee was $50, but forty attendants signed on. They were given heavy reading and writing assignments before each session, but were so satisfied that a second seminar was necessary, for thirty-five attendants. One auto dealer was prompted to import a new line of French cars. Some small businessmen declared that the course had been especially helpful in shaking up their ideas, giving them a broader view of their own businesses. Women attended—the president of the first seminar was the wife of a doctor who could not find time to attend.

This educational project was beneficial to Galveston as a community. Once the major Gulf port, and the center of Texas commerce, the city has been constricted by its island location, and was felt to need new industry, trade, and growth. Tourists, shipping, and the huge University of Texas Medical Center are its chief sources of revenue. Port traffic has been increased lately; a $6 million causeway across the channel to Pelican Island has opened up an area for business and residential expansion; and more than 100 Galveston businessmen have contributed $500 each to a fund for attracting tourists and new industries.

Mother Bell's self-educational activities are right in the spirit of such an old community, realizing that it is living in a new age.

SOMETHING else in Bell education with a strong popular appeal is "defensive driving" training. Company fleets are growing out of bounds, hundreds of employees use company cars to travel on company business, experienced drivers are less and less easy to hire, and so motor accidents are an ever-increasing hazard, and a factor in operating costs.

Defensive driving teaches employees to be good drivers, and to protect themselves against whatever other drivers may do, also to turn in standard reports on accidents when they do occur.

This kind of training started twenty-

five years ago, when Professor Amos E. Neyhart saw that something of the kind was needed; even then, taught one high school class to drive protectively. Presently his methods were taken up by business concerns with fleet problems, and he was teaching fleet supervisors to become teachers. Today he heads the Institute of Public Safety, at Penn State College.

Bell companies took up defensive training some years ago, and it has reduced accidents on an average of 50 per cent, and in some cases cut them to one-quarter. Company vehicles driven by skillful, considerate drivers are also a factor in good relations, and standard reporting of accidents is highly valued by legal departments.

A typical defensive driving course, taken by all employees who use company cars, requires a day and a half of classroom work, and a half-day on the road. Classes of twelve to fifteen employees are taught motor laws and hazards, the advantages of calm, considerate, and confident temperament at the wheel of a car, and to watch other drivers and pedestrians for unexpected actions, to prevent accidents before the last few seconds, when it is too late. Faulty driving causes 70 per cent to 80 per cent of fatal accidents.

CITIZENS see the value of such training for themselves when they sit in on company classes, as observers, and telephone companies get them started with their own training classes by teaching instructors, and furnishing manuals, score sheets, and other material. This teacher training takes about six hours. Police chiefs assign officers to qualify as instructors for the force.

Hidden Telephone Asset

FINALLY, the telephone company has a neglected asset as a local industry, like a new factory. It is seldom put forward on that basis.

When Lubbock, Texas, 75,000 population, became a Bell division headquarters, a businessman asked, "Just what does a telephone company mean to a city?"

"That's an easy question to ask," replied John Whitcomb, division manager. "But I'll have to look into it, find out."

He began digging for facts, and was astonished. A new factory with a yearly payroll of $3 million would have been hailed with searchlights. That was what the 800 telephone employees in Lubbock were earning. They spent more than $500,000 a year for groceries, $600,000 for housing, corresponding amounts for clothing, entertainment, services, taxes—company taxes were $145,000, enough to teach 641 youngsters at the town's school rates.

IN the past few years the company had spent $8 million in Lubbock, doubled the number of subscribers, lately installed the fifty-thousandth telephone. Its total investment had reached $14 million. It had two wire centers, with a third planned, and, besides company buildings, rented three floors in an office building. Its 50 trucks and cars had been bought in Lubbock.

Such facts are inevitably paraded when a town gets a new industry.

They may be surprising to telephone people themselves.

To assemble them for a parade seems logical—the way to bring another hidden asset into public view.

Current and Future Programs Of the Telephone Industry

Based on requests for statements by telephone company executives, this collection of responses represents a veritable cross section of what the telephone industry in the United States is thinking about and what it is doing and planning at the executive level during this critical period of postwar expansion and rapid inflation. This feature includes statements by presidents or other executive officials of numerous telephone companies, in both the Bell system and in the independent field with respect to merchandising and plant construction programs.

American Telephone and Telegraph Company

STANLEY F. DAMKROGER
Assistant Vice President

Selling Pays Off

Expanded Bell system sales activities bolster customer demands for services

EXPANDED sales activity throughout the Bell system has proved to be an effective deterrent to declining customer demand. Each Bell company has a well-planned sales program, a combination of "on the street" and telephone-selling projects. This combination provides for more flexibilty and economy in providing service improvements for all customers—business and residence alike.

Business Market

The Bell system has more than 6,000

full-time salesmen aggressively selling the business market. In addition, selling is also an integral part of the work of thousands of installers, maintenance men, and business office people.

An intensive industry program is now in progress. The program is designed to study present and future communication needs of many of the nation's larger industries.

Many large customers have communication requirements unique to their particular industries. Studies have already been completed or are now in progress on airlines, department stores, hospitals, hotels, and stockbrokers, to name a few. The information obtained in these studies will serve to equip Bell companies to meet their needs more effectively.

Selling by Telephone

THE Bell companies are practicing what they preach to other businesses. They are selling by telephone to reach residence and business customers not normally covered by the "on the street" sales forces.

Over 300 saleswomen in telephone-calling centers in many cities throughout the Bell system, are selling telephone service and equipment to business and residence customers. Among the items they are selling by telephone are key equipment, additional lines, extension stations, color telephones, and additional directory listings.

Telephone-selling activities stimulated the addition of more than $5 million in new revenues during 1957 and should, with the present expansion program, reach well over $6 million in 1958. And 1959 and 1960 will see even greater expansion in this activity.

Long-distance Promotion

SALES people in every Bell company are promoting the use of long distance in business. They are showing businessmen how they can profit by using long distance in selling, collecting, and producing. In the visits of long-distance salesmen, as well as in long-distance advertising, the companies are stressing the success other businessmen have had in using long distance.

A typical case history states one company made $200 on its first out-of-town call to a customer and is now doing about 70 per cent of its business by telephone.

Another businessman said he has earned as much as $150 in sales for every dollar spent on telephone calls.

An executive wrote to the telephone company that he picked up his telephone to call some of his customers—not to sell them, but to give certain information he thought would be useful to them. In thirty minutes, for only a small amount spent on telephone calls, he obtained orders totaling $1,200.

The telephone companies suggest several ways a business can use long distance. One of the most successful is what the Bell companies call the "Key Town" plan. A firm using this plan has its salesmen visit customers in a key town and visit those in surrounding areas by telephone. In a "skip stop" variation of this plan, the salesman on a second visit to his territory reverses the treatment. He visits in person the customers he had called on the telephone, and telephones customers he previously visited.

Bell system sales forces promoting long-distance usage are expected to produce some $75 million in additional annual revenue this year compared with $60 million last year.

Public Telephone Development

ALL Bell companies are giving increased attention to public telephone development. In the last three years alone the Bell system has added about 70,000 public telephones, compared with some 148,000 installed in the preceding ten years (1945-55). Each company is striving to provide convenient public telephone service where it is most needed—not only in cities but along the nation's highways. In the last three years the number of outdoor booths installed by the Bell system has doubled.

The public telephone development is backed up by continuing research in the Bell Laboratories to improve the service. Among new features being tried out are "drive-up" coin telephones which people can use without getting out of their cars. This past summer a newly designed public phone with a single coin slot was placed on trial. The single slot accepts nickels, dimes, quarters, and eliminates the familiar three-coin slots.

Home Telephone Planning

MOST of the Bell companies are stepping up their home telephone planning activities. In particular, they are working with architects and builders to promote concealed telephone wiring and convenient outlets in new homes.

These conveniences, built into new homes during the period of construction, offer a number of advantages both to the builder and to the home buyer. In 1957, an estimated 180,000 home units featured concealed wiring, with some 650,000 outlets provided.

Extensions

TELEPHONE planning during home construction is only the first step in the Bell system's overall goal—the well-telephoned home. The objective is to provide telephones throughout the home, especially in the living, working, and sleeping areas. The number and location of the telephones will depend on family activities and the arrangement of rooms.

Bell people know from surveys that there are many families who do not have, but need additional phones and that they want bedroom phones. As a result, in October all the Bell companies are concentrating their promotional activities on the bedroom extension. The sales and promotional campaigns will be on both a local and national scale. Service representatives, installers, salesmen, and many other employees will personally talk up the conveniences and advantages of a bedroom phone to customers in villages, small towns, and big cities throughout the nation. Of course, telephones in other parts of the home will also be pushed.

This promotion will use: national advertisements in women's and general magazines; local ads in newspapers; radio and TV spot announcements; displays and posters of all types in local offices and other public places. In addition, Bell system films emphasizing the well-telephoned house will be offered to clubs, organizations, and motion-picture houses. Direct mail, color pictures, counter cards, signs, and stickers—all will help to spread the word to telephone users that the bedroom extension phone is theirs at low cost.

THE campaign is shaping up as one of the biggest concentrated selling efforts to date in the telephone industry. Bell people expect it to pay off.

Bell companies found that a concerted sales effort like this worked well in a

month-long promotion of kitchen extensions last April. Sales efforts of business office representatives, installers, and repair men have improved almost constantly. Residence extension gain is now four times what it was but a few years ago. This year the gain will equal or exceed 1957 despite the drop in customer demand for new service. Color has, of course, gone right along with the sale of other services.

New User Sales

WHERE available facilities have permitted, door-to-door sales to nonsubscribers have been pushed. These sales efforts, while limited in scope, have resulted in the sales of many thousands of main and related services.

Yellow Pages

AGGRESSIVE selling of directory advertising throughout the Bell system brought appreciable gain in 1957 and through the first half of 1958. The efforts of over 3,000 salesmen have resulted in a 6 per cent gain in the first six months of 1958.

This is especially significant since the advertising industry in total was able to only hold its own.

Construction Program

THE Bell system's construction program for 1958 remains at about $2.2 billion—about equal to the average for the last three years.

It is not possible to make a close estimate of total construction expenditures for 1959. But they probably will be in the $2 billion range.

Selling a Way of Life

THE Bell system sales program is geared to a rising economy as well as to a recession. The aggressive marketing of its services for the benefit of its customers, and as a major contribution to needed improvement in its earnings, is a continuing and going program throughout the companies of the system.

General Telephone System

DONALD C. POWER
President

Résumé of Merchandising Program—1959

THE knowledge and experience that we have realized from the "Telephone Fair" and other research projects during recent months have enabled us to develop a marketing and merchandising program for 1959 that will, I believe, assist us in offering at the earliest possible date telephone service that is tailored to fit the individual customer's wants and needs. Our service program includes:

The creation of a sales organization for each of our operating companies. The personnel of these organizations will be carefully selected and given a comprehensive sales training course under professional guidance. They will be given specialized product knowledge, furnished with sales aids, and will devote full time to consumer consultation and sales promotion.

A comprehensive, closely co-ordinated program of advertising and promotion that will include all segments of the General Telephone System. This program is designed to enable us to do the most effective job possible in acquainting our customers with the many additional products and services that we have to offer that make the customer's basic service of more value to him.

An accelerated program of market testing and market research to determine the customers' reactions to the various products and services that we offer. The result of collecting and analyzing the subscribers' experiences and comments will enable us to effect modifications and improvements in our products and will assist us in pinpointing the areas of the market to which a particular product or service has the greatest appeal and the largest potential. Through this process we shall also be able to assist our research people to direct their attention toward those things that will give the greatest benefit to the customer and the best market potential to us.

A PLANNED analysis of each of our exchanges to provide us with a current appraisal of the availability of both central office and outside plant facilities, and, based on these findings, we shall establish a formal merchandising schedule designed to realize the maximum benefits for both the customer and ourselves from every available facility. In this connection, we shall expand considerably our program of exhibiting and demonstrating our products and services to as many of our customers as possible.

A concerted effort with architects, contractors, and developers to obtain their interest and support in prewiring all of their buildings for adequate communication facilities.

Although our plans include the promotion of all products and services, we anticipate putting particular emphasis on the elimination of held applications for a higher grade of service, the sale of both residence and business extensions, increased use of colored instruments and answering devices and their associated services. We are convinced that by placing greater emphasis on selling by use of the "package plan" we shall achieve improved sales results, and consequently special attention will be given to this phase of the merchandising program.

ALTHOUGH the operating companies experienced a smaller station gain and less toll volume than had been forecast for the early part of 1958, this did not materially affect our construction expenditures. There has been an upsweep in station gains and our toll volume has increased during recent months and, as a result, we anticipate our 1958 construction expenditures will be about the same as they were for 1957.

Our 1959 merchandising is designed to provide increased and improved service to our subscribers, additional profit to us, and a firm base for future improvement in the quality and quantity of service that we shall offer to our subscribers.

California Interstate Telephone Company

Victorville, California

WILLARD WADE
President

At present we have no specific programs concerning: *"(1) color telephones; (2) telephone extensions; (3) multiple subscriptions for existing subscribers,"* etc.

The current recession has not been felt by this company to any great extent. There has been some diminution of the toll growth that we have been experiencing for the past several years; however, there has been no actual decrease. The demand for new installations continues unabated, and our construction budget for this year is substantially larger than for the year 1957. It seems likely that our continued growth results from diversification of activity and natural resources in the territory we serve, and our large expansion program is in itself a stabilizing influence on the economy of our territory, as we are a large employer in the towns and cities we serve.

California-Pacific Utilities Company

San Francisco, California

H. C. BRIGHT
Telephone Engineer

Installation in Elko, Nevada

Culminating at least five years of planning and engineering, the Western Pacific Railroad Company, with headquarters in San Francisco, California, has subscribed through the California-Pacific Utilities Company for a unique and to the average telephone subscriber a very complete type of service at its division office in Elko, Nevada.

The Stromberg-Carlson Company is the supplier of the initially equipped 60-line PABX equipment. This system alone provides for outside calls, inside calls, intercommunication, and even discriminates as to the toll user. This discrimination does not in any way, however, limit the toll usage. A PBX operator will provide an interconnection point on this particular system but this arrangement in itself does not fulfill the complete requirements of Western Pacific Railroad; therefore, working with the PABX equipment is Stromberg-Carlson's design of key systems.

The communication personnel of the three companies, California-Pacific Utilities, Western Pacific Railroad, and Stromberg-Carlson working together have adapted ten 6K1 telephone units to provide intercommunication for all departments in the Western Pacific division office at Elko, Nevada. Both visual and audible signals will be used for incoming calls, identifying lamps for hold and busy, buzzer signal arrangement plus a full selective dial intercom. All these units will be working together to provide a more efficient telephone operation and should benefit all concerned.

California Water & Telephone Company

San Francisco, California

CALVIN T. PITTS

CALIFORNIA WATER & TELEPHONE COMPANY operates 29 telephone central offices in the Los Angeles metropolitan area and areas in and around Palm Springs and Redlands. It provides water services to parts of Monterey, Los Angeles, and San Diego counties. At present the company is in the midst of an $11 million construction program for 1958, of which almost $10 million will be expended in its telephone division and the balance in the three water divisions.

Although recessionary conditions have tended to slow the rate of growth within the areas served, California Water & Telephone Company is still experiencing considerable expansion. Officials estimate that the construction budget for 1959 will be somewhat less than the amount being spent for new plant this year.

During the past five years, the company gained more than 70,000 telephones and its total plant investment in telephone facilities skyrocketed from $16.2 million in 1952 to $52.3 million at the end of 1957. For this same period water plant investment grew from $20 million to $26 million while the company gained almost 12,000 new water services.

DURING the twelve months ended June 30, 1958, 11,098 telephones and 1,881 water services were added, bringing the respective totals to 133,410 telephones and 59,222 water services. Operating revenues for the 12-month period ended June 30th, totaled $19,470,000, of which $14,896,000 were derived from telephone service.

IN its efforts to provide telephone subscribers with the best and most efficient service, California Water & Telephone Company has been conducting an active and effective merchandising program since early 1956. The program is divided into two segments; one consists of a campaign by outside telephone representatives who direct their efforts toward the business service market; the other involves the stimulation of subscribers' services in the residence service market.

In the case of business subscribers, a presentation is made to the customer in which all possible applicable services are reviewed. Those services are recommended which would make the customer's communications more complete and efficient. This includes all available subscriber sets and services.

The residence service market, while limited to certain types of subscriber sets and services, has proved highly productive in the area of extension telephone sales. When the program was inaugurated, extensions represented less than 9 per cent of the telephones in service. At the end of June, 1958, they were almost 14 per cent.

Continued effort in both phases of this program is contemplated by the company, with special attention being given to new products, services, equitable tariffs, and training.

Capital City Telephone Company

Jefferson City, Missouri

FOSTER B. McHENRY
President

THE much discussed recession has not had any appreciable effect upon our telephone operations. Certainly it will not affect our presently constituted construction plans. Though local employment is down somewhat from last year, toll usage remains extremely high and the rate of station gain is surpassing that of last year, which was the highest in company history.

A permanent program to cultivate the residence extension market was initiated last fall and is credited for 1957's record station gain. This program features "package plans," for which the total rate, including taxes, is quoted to the subscriber. It includes also installation of additional phones at a reduced installation charge while on a "paid" visit to premises. Activity in this area is stronger than ever, with residence extension gain so far this year up 64 per cent over the same period last year.

The colored phone market is showing surprising strength. Per cent of total stations in color has passed 4.7 per cent, and the number installed this year is up 76 per cent over the same period last year. We use a rather elaborate commercial display featuring color, but feel that the best advertising is provided by those in service.

This year, for the first time, we set up a display for a booth at our county fair featuring additional phones, colored phones, toll usage, and Yellow Page usage. Mechanical motion displays were used, including a model of our switching system connected to a hands-free phone, dialaphone and electronic secretary.

A notable development this year has been the number of new installations and increases in capacities of key systems (with and without dial intercommunication), PBX's, etc. As in the case of the colored phone market, these installations seem to do their own advertising.

In short, we have every reason to believe that 1958 will at least equal 1957's operations. We are optimistic enough to hope for new records.

Central Telephone Company

Chicago, Illinois

JUDSON LARGE
President

THE Central Telephone Company and associated companies group includes LaCrosse Telephone Corporation, Lexington Telephone Company, Middle States Telephone Company of Illinois, Virginia Telephone & Telegraph Company, Southern Telephone Company, and Southeastern Telephone Company, with Lincoln, Nebraska, headquarters.

This group of telephone companies, operating in seven states, has initiated a continuing merchandising program which has been designed to promote participation of all employees in the merchandis-

ing effort throughout 1958. Management training conferences and employee meetings are held in order that the program may be fully analyzed and explained and, with these meetings, demonstrations and explanations are made of the various items which the industry has for sale. Sales point credits of varying amounts are given on the different items which are available as revenue-producing items. On accumulation of specified number of points, award certificates are issued to the individual employee. Employee participation in the activity has been very good. Although points may be accumulated on the sale of any revenue-producing item, particular emphasis has been directed to the sale of extension telephones. The promotion of the sale of colored telephones has aided materially the sale of extension stations.

QUOTAS are established for each year as to number of stations which each operating district and telephone exchange in the system is expected to gain during that year. The current recession has had some effect on the station gain for 1958, as each company of the system is currently below the estimated gain at this point in the attainment of its 1958 quota. Special sales activity is planned for the last four months and it is expected that the present 1958 shortage will be made up and that a reasonable accomplishment of the station projection will be made.

WITH very few exceptions, the construction program, which contemplates gross expenditures of about $14 million, is going forward as planned. General conditions in the areas served are such that, although there has been a lull in the rate of growth in stations served, the general outlook is such that the companies feel continuing increases should be accomplished in station development. This not only justifies the continuation of the 1958 construction program but indications are that the 1959 expenditure will be for a similar amount. This program is designed to continue the improvement and expansion of the facilities in all of the communities served by the group of companies. This program over the past several years has been aimed at the complete modernization of the facilities of the group of companies and, by the end of 1958, more than 87 per cent of the telephones will be served from dial-automatic exchanges.

Chenango & Unadilla Telephone Corporation

Norwich, New York

W. S. KINGMAN
Executive Vice President

"Serving Central New York State"

WHO are we, how big, and where? What is our construction program for 1958? What do we think of advertising, merchandising, and selling telephone service in the future? Briefly, let me tell you.

Our 35 exchanges touch 11 counties of central New York dairy country. We have good industrial representation in our territory. Our plant in service or under construction is $10 million and we have approximately 29,000 telephones.

In 1958 and 1959 we plan the cutover

of five exchanges to dial operation and extensive additions or replacement of outside plant and central office equipment. This expansion will cost about a million dollars in 1958.

Our faith in the future of telephony and the American economy is unshaken. We believe wonderful opportunities lie ahead for those who will advertise, merchandise, and sell telephone service of all types.

SURELY we are at the edge of a bright new era of prosperity. Here is why: expanding research, growing population, enlarged suburbs, higher incomes, more efficient farming, automatic factories, faster transportation, better education, changing management, new government planning.

Stop and review these and see if you are keeping pace with the future of the telephone business.

We are promoting extension telephones in color, automatic answering devices, secretarial answering units, key telephones, outdoor and indoor pay booths, hands-free telephones, Yellow Pages advertising, and hard-of-hearing sets to mention a few. Here is how: We use newspaper and radio advertising as a base of our advertising program. We have had contests using our plant and commercial departments, to see who could sell the most extension telephones in a given period. We have used store windows to display the new colorful telephones and special equipment. We have a large display at our annual county fair which is promoted with excellent success. We have occasional displays in the lobbies of our district offices, where people pass regularly.

ALL these methods coupled with our envelope advertising are producing good results. Envelope advertising goes to each customer with his bill once a month automatically. This method is unbeatable for economical distribution of advertising.

Another aid to sales of colored telephones for extensions has been our reduction of price to a $5 initial charge. Many telephone companies charge much more for this service.

For the future we have been thinking of using a woman in uniform to call on all of our customers, inspect, clean, and test the equipment, make minor repairs such as cords, and to observe each home for need of more telephone services. If a need is obvious, the woman would be prepared to sell the additional telephone service to the subscriber. The idea has excellent possibilities if the right person can be found for this job.

There is no question that the advertising, merchandising, and selling telephone company will produce results over and above the "do nothing—let business come to us" type of company.

What other business has the type of contact with customers each and every month that we do?

Why not ask every one of your subscribers to buy—we are sure the results will surprise you.

Clifton Forge-Waynesboro Telephone Company

Staunton, Virginia

WILLIAM W. GIBBS
Vice President

WHEN our station reports for the first four months of 1958 showed that we had gained 50 per cent fewer stations than during the same period of 1957, we determined to take a good look and see what could be done.

First, we realized that now at long last we were in the happy position of having facilities with which to furnish service virtually anywhere in our territory. Second, we were not making the most of the opportunities to sell additional services which would give the customer better service and the company additional revenue. Third, increased expenses were absorbing practically all increases in revenues.

The result of our appraisal was the inauguration of a six-week sales campaign. We first obtained authority from the state corporation commission to remove, temporarily, the service connection charge for extension telephones and the change of instrument charge for color sets. We then asked for volunteers from among our plant personnel to become salesmen for six weeks. From these volunteers, who were offered no reward, prize, or incentive other than the satisfaction and pride of accomplishment, we selected one man from each exchange. We gave these men only two days' briefing on the services we had to sell, various means of locating prospects, methods of approach, and closing the sale.

We held meetings with all employees and outlined the passing of the "order taking" era. We stressed the need for future thinking in terms of what we could sell, of considering every customer, friend, acquaintance, home, and business with the idea of "for what service or additional service is this party a prospect"? Our commercial office personnel were briefed on suggesting extensions and color sets to new service applicants and other obvious prospects. Our plant installers and repair men were instructed to take with them an extra color set on every call they made and to call the customer's attention to the opportunity of getting an extension at no service connection charge.

At the start of the campaign on May 12th, we advertised in newspapers and on radio. Later we followed up with bill inserts.

The out-of-pocket cost of the campaign was negligible. We did not replace the salesmen borrowed from the plant department. Our advertising expense came from our normal advertising budget.

THE success of our campaign was largely due to employee enthusiasm. The names of prospects were turned in to the salesmen by employees of all departments and sales were also made by employees having no direct duties in connection with the campaign.

In six weeks we sold 949 items of service or equipment, main stations, extensions, extra listings, colored sets, upgrades, etc.

At the end of the campaign period, June 30, 1958, our station gain for the first six months of the year was 50 per

cent greater than the comparable period of 1957.

OUR experimental sales effort proved that there were additional services and equipment which the customer would take if the advantages were pointed out and he was asked to buy. It also indicated there was an untapped market for new service.

The obvious result was to change our sights from complacent order taking to aggressive package selling.

Our sales effort in the future will entail periodic calls on the "no phone" prospects taken from the sources available. Our representatives taking an application for service will, after getting the necessary information, attempt to sell those items of service or equipment which will give the customer better service. We shall request a change in tariff to permit the installation of residence extension telephones without a service connection charge when installed along with the main service. Our plant installers will continue to carry that extra telephone and suggest extensions.

Commonwealth Telephone Company

Dallas, Pennsylvania

H. H. BUTLER
General Manager

SINCE early in 1958, Commonwealth Telephone Company has made a simultaneous three-pronged attack on the sale of telephone facilities.

First, there has been a sales campaign by telephone in all offices of the company. Under the direction of two general staff supervisors, part-time help was recruited in each of our 10 districts and a "cold" canvass made by telephone to reach every telephone subscriber. The reception was gratifyingly good, with nearly 10 per cent of the contacts resulting in sales or service improvements. Additional sales will undoubtedly result as the prospects secured in the canvass are followed up.

Second, the combination men—particularly those involved in dial conversion work—were given sales training. The dial conversion combination men are rated on a sales point system, with the points kept current daily so that the high man in sales results is continually recognized.

Third, the business office employees have received special training, some of which was adapted from the Bell sales course. We are giving consideration to introducing a sales report comparing results by business offices, which should have a stimulating effect.

As an indication of the variety of sales, there is listed below the results of our efforts from early in the year to August 15th for most of the items sold:

Extensions	845
Colored	282
Regrades	522
Cords	244
Bells	101
Key Sets	25
Additional Listings	9
New Connections	43
Pay Stations	30
Recording Secretary	8
PBX	6
Inter-Com	3

Hard Hearing	3
Push-to-listen	4
Switching Key	3
Jack and Plug	78

In connection with other services and sales activities, the company is expecting to file a tariff for reduced extension telephone service connection charges in "multiple" installations. These reduced or bargain rates should give considerable impetus to our extension telephone sales as will increase substantially our sales attempts. We were concerned that the Bell Telephone Company of Pennsylvania had an extension telephone development at December 31, 1957, of 29.5 residence extensions per 100 residence main telephones while we had only 9.4. In the past five months of sales efforts, we have increased this relationship to 10.8 per 100 residence main telephones, or 15 per cent improvement. Since our extension telephone development is so far below that of Bell, we have a real market for expanding such sales activity.

There is one phase of our merchandising program that we have not yet been able to do much about. We presently have a very low ratio of individual and two-party service. We expect that with the attainment of 90 per cent dial at the year's end, our construction program will be directed in large measure to make possible the regrading of many of our multiparty and four-party customers to higher grades of service. Part of this program will include many extensions of our base rate areas. Not only do we expect to improve our local revenue per station, but we foresee increased toll revenue and additional extension station development since such regraded customers would be able to make more unrestricted use of their service. Most important, however, will be our improved public relations since many of our customers now with lower grades of service normally are of the economic and social group who would be expected to have individual line service.

Although our territory is for the most part rural in nature, we are determined that the same high standards of service and equipment be furnished in the rural areas as in the larger urban communities.

On leased lines we recognize that an industry-wide approach is desirable, but before we can stimulate this service the intercompany settlement arrangements need improvement and negotiations are being pressed.

Construction throughout 1958 has been normal and has been the result of adequate financing through established financial channels. Issues of common stock, preferred stock, and bonds have all been successfully marketed during the year so that now some 18 insurance companies and about 1,700 stockholders have investment in the company. With normal business and this improved source of construction funds, it is anticipated that 1959 and 1960 will have a construction program not too different from the $2,831,000 program for 1958. It is realized, however, that continual sales effort will be necessary to provide the growth necessary to justify the additional financing and probably some rate relief may be anticipated. These 1959 and 1960 programs as indicated previously veer away from the emphasis on dial conversions to an emphasis on enlargement of base rate areas, upward regrading of many customers' service, and improved rural plant.

Commonwealth Telephone Company of Ohio

Athens, Ohio

HOWARD C. SLUSHER
Vice President and General Manager

ALTHOUGH we have no organized merchandising program, we feel that we are consistent in our newspaper and radio advertising covering colored telephones, extensions, long-distance service, rural promotion, and institutional copy on a year-around basis.

All types of special services are offered except radio, and we hope to be in a position to sell mobile service within the near future.

Our private branch exchange service is being promoted by our contacting the customer on his requirements. To date, we have sixty (60) private branch automatic and manual exchanges in service which we believe is good for a company serving approximately 15,000 stations. Revenue from public telephones has proved to be a good producer.

Commonwealth Telephone now has one hundred and thirty (130) public and semi-public pay stations.

THE current recession has not changed our plans for present or future. A substantial station gain and toll revenue gain will be made this year. By April, 1959, our thirteen (13) exchange systems will be completely dial operated.

We are proud to be a part of the great telephone industry.

Florida Telephone Corporation

Ocala, Florida

MAX E. WETTSTEIN
President and General Manager

As of June 15, 1958, Florida Telephone Corporation completed its dial conversion and 2-5 numbering modification program, started four years ago when its last manual type exchange was converted to dial. In addition to the conversion of six manual exchanges to dial, the four-year program also included the modification of all dial exchanges to the 2-5 numbering plan (two letters and five digits). The system presently is 100 per cent 2-5 numbering and several installations of direct distance dialing (customer toll dialing) have also been made. In the next few years, plans are to install additional direct distance dialing systems which will encompass complete regional, state, and nation-wide usage throughout all of the company's eighteen exchanges and seven subexchanges in central Florida. It is estimated by the company that upwards of 1.5 million long-distance calls a year will be direct distance dialed by customers when the present program is completed. The processes of dial conversions and 2-5 numbering modifications over the past four years were simply steppingstones to a toll mechanization program involving extensive use of customer toll dialing.

An extensive microwave toll network was also established in the last few years and the entire toll system expanded to meet

the needs of this fast-growing telephone utility.

Within the current year, a merchandising program has been established centered primarily around the sale of extension telephones, colored sets, and special services. Employee participation has been established and the program is producing results.

Mobile telephone service in vehicles was introduced in several areas of the company in 1957 and is being well received. Plans are being made to gradually expand this type of service.

WHILE in 1958 the volume of toll business has decreased to some extent as the result of adverse weather conditions affecting the citrus and vegetable industries, this is only a temporary situation and Florida's continued growth and economic picture look bright.

UPON completion of the dial conversion program, the company has adjusted its level of construction downward to meet only expansion requirements. The 1958 construction program calls for the expenditure of approximately $3.5 million, which includes about $1.5 million in completing the dial conversions. In 1959, it is anticipated that the level of construction will be reduced to approximately $2 million.

General Telephone Company of Florida

Tampa, Florida

CARL D. BROREIN
President

As a part of the General Telephone System the General Telephone Company of Florida, formerly the Peninsular Telephone Company, is preparing to engage in an extensive merchandising program, some of which is already under way. The sales direction will include all of the items contained in current telephone industry merchandising practices, including special services, particularly long distance. Because of the continuing rapid growth in Florida it is more difficult than would ordinarily be the case to separate the results of the merchandising program from those which might have occurred without it; but the results in the sale of colored instruments on a monthly charge basis and of special services indicate an open field for the production of new revenue and extension of the use of telephone service.

THE company's construction program for the year 1958 was the largest in its history, and while it has been reduced by about 11 per cent for this current year, it still remains the largest. It is contemplated from indications now present that next year's construction program will not be less than the current program, originally approximately $25.5 million, which was revised recently to approximately $22.8 million.

Grand River Mutual Telephone Corporation

Princeton, Missouri

C. W. CHASTAIN
General Manager

IF our application is approved by the FCC, we plan to inaugurate dial radiotelephone service in our Princeton exchange shortly.

Since August of last year we have conducted a sales contest. For the period August 21 to November 20, 1957, twenty-one employees participated and extra sales amounted to $3,550 of annual revenue. In the period November 20, 1957, to May 20, 1958, with twenty-six employees participating, extra annual revenues amount to $6,750. Awards are made monthly and a grand prize given at our annual Christmas party.

After going through four years of drought, our farmers have had two pretty good years and the recession is not so noticeable. However, business is off and our area has seen several small business failures.

Checks are bouncing more often, if not longer, and our charge off to uncollectible has increased each year for the past three or four years. This has in no way affected our construction program and our station gain in the first half of 1958 has been about 4 per cent.

TWENTY-FOUR of our exchanges are dial with five having been converted in 1958. Three exchanges in Missouri should convert in the first quarter of 1959 and the last exchange now under construction, which is in Iowa, should convert in the second quarter of 1959.

Then nothing to do, unless we acquire more area.

Gulf States Telephone Company

Tyler, Texas

MORRIS P. BURTON
Vice President

BY the close of 1958, Gulf States Telephone Company, operating 33 exchanges in east and central Texas, will have all exchanges on dial automatic (attended and unattended) or on common battery service, with one exception. This one magneto exchange serving 135 stations was not acquired until early 1958 and plans are completed for converting it to unattended dial service.

With this improvement program approaching completion, Gulf States inaugurated in early 1958 a concerted "merchandising" program keyed to sell additional services of all types. Company representatives in all departments are being kept informed on such extra services and facilities available, with the emphasis being placed on selling to existing subscribers. Specialized equipment is being designed by company equipment specialists to assist field people in proper design and capacity features.

Exhibits of equipment supplied by various manufacturers are being made at Dial Conversion Open House programs, indus-

trial shows, and similar public gatherings.

Results of this merchandising might best be summarized by a recent experience. A retired college professor, who had residential service, requested a toll credit card although records indicated a rather limited use of long-distance facilities. When questioned by the local manager, the professor explained he did not desire the card for actual use in placing long-distance calls, but he wanted it for a credit reference in his retirement travels because he had found a telephone company toll credit card the most frequently accepted credit reference for a stranger to carry.

GULF STATES has continued other phases of growth as a result of the service improvement program. Gains in total telephones served will reach an estimated 15 per cent increase during the past four years by the end of 1958, while dollar volume of long-distance calls is predicted to reach an 18 per cent increase during the same past four years. Through mid-1958 no slump or decrease in either station growth or toll usage had been noted; consequently, construction programs are continuing at normal schedule.

Gulf States Telephone Company, founded from two predecessor companies in 1911, is now the largest nongroup telephone system in Texas and is the third largest among all Texas independent companies.

It was the first independent Texas company to introduce intertoll dialing between exchanges, and the first to establish an unattended dial exchange with two letter, five digits type of numbering scheme. By the end of 1958, Gulf States anticipates a total of 23,000 telephones served from 34 exchanges, and about 3,000 circuit miles of long-distance lines. Judge S. A. Lindsey of Tyler, Texas, who founded the two predecessor companies in 1902, remains active as chairman of the board at age ninety-five.

Indiana Bell Telephone Company

Indianapolis, Indiana

FRANK MUSSETTER
Vice President

INDIANA BELL TELEPHONE COMPANY has an extensive merchandising program covering both business and residential customers.

We have concentrated on the business field for many years, maintaining frequent contact relative to all our special services through a trained sales group. Four years ago, we started placing special emphasis on our merchandising job with residential customers and have developed a program carried primarily by business office and plant department forces.

On all residential contacts, efforts are made to give each customer the service he needs through a "good service" approach. As a result, we have made notable impact on this market.

While we have no specific plans to expand our merchandising program, we do periodically supplement it with new services and new ideas. We sharpen it up.

Our results in the past four years: We have more than doubled the number of residence extension telephones. We have made substantial gains in business services.

We have made big inroads in improving customers' classes of service and in reducing the number of customers with multiparty service.

We find greater interest today in residential telephone service for teenage members of families, which stimulates the demand for multiple lines as well as extensions, color telephones, and additional listings.

Since we have a high development of residence service, our canvasses for new subscribers have been on a very selective basis.

The acceptance of telephones in color in both residences and business is continually growing, and our use of color has doubled in the past year. In May of 1957, 14 per cent of all telephone instruments used in inward movement were color sets. In May of 1958, the comparable figure was 28 per cent.

Business conditions have prompted no significant change in our current construction program nor in 1959 plans.

Inter-Mountain Telephone Company

Bristol, Tennessee

KELLEY McNISH
President

During the year 1944 when Inter-Mountain had only about 30,000 telephones, with a plant investment of approximately $3 million, we formulated a long-range program of converting our exchanges to dial operation together with broad expansion of our plant facilities. At that time we were operating about 95 per cent of our stations on a manual basis.

Today we have approximately 96,000 telephones with a plant investment of about $28 million. This growth was substantially developed within the territory that existed in 1944. When our Bristol exchange is converted in October we shall have 85 per cent of our telephones dial operated. Only Johnson City, Tennessee, will remain manual and that is scheduled for late 1959. You can readily see that we have had to go to the investing public for many millions of dollars. We have also successfully petitioned the public service commissions of Virginia and Tennessee five times during this period.

Now as for our merchandising and special services program, we have continuously emphasized the sale of extension telephones. This has been done by employee contacts and various advertising media. Each year special campaigns for the sale of extensions are instituted. Last year two campaigns were held. The gain set for both campaigns was 650. A total net gain of 1,318 was experienced. By way of summary, our gain in extensions last year was equal to 40 per cent of the gain in main residence telephones. We are now setting up a campaign with a goal of 1,300 residence extensions. This campaign is to last through December 31st.

We have found professional people and small businesses to be an excellent market for special answering devices.

A constant check is made on overloaded conditions on subscriber lines, whether residence or business. In this way we have been able to sell many subscribers on multiple services.

The Lincoln Telephone and Telegraph Company

Lincoln, Nebraska

MERLE M. HALE
Vice President

AN active merchandising program since 1955 is paying dividends for The Lincoln Telephone and Telegraph Company. Employees in all departments take part in an Employees Sales Participation Program which thus far has resulted in 11,728 sales producing $172,578 in gross annual revenue.

Adding incentive this year is a monthly drawing for valuable prizes with a grand prize for the year. Employees become eligible for prizes by making one or more sales during the month. This evens up the chances for those with lesser sales contact opportunity. Plans are also being made for a special 30-day sales campaign later this year for extensions. As a point of interest, 14.6 per cent of the company's total stations are extensions and 4.6 per cent are color telephones. Some exchanges have up to 11 per cent color telephones.

Some 35,000 telephone dials at Lincoln are being changed preliminary to installation of 2-5 numbering for direct distance dialing. Dial conversions at other exchanges also require the change of telephone sets. These on-premise visits provide excellent sales opportunities. To add attraction at Lincoln, a large model plastic telephone in color was mounted on top of a new station wagon. This "salesmobile" was then used by a combination man who had an outstanding sales record. So far this year he is averaging one sale for every three visits, besides plant inspections and dial changes.

Practically all of the company's advertising is now devoted to sales promotion. In addition to the "standard" media of newspapers, radio, direct mail, etc., the company displays its services to the public through exhibits at home shows, open houses, etc. A portable peg board display built this year for this purpose combines the advantages of an effective exhibit with ease of transportation and setting up with a minimum of cost. The unit is built in four sections fastened together with hinges. This makes it self-supporting and it can be folded for shipping. Display signs are fastened to the top with doll pins. Large tinted photographs at both ends illustrate the use of color telephones throughout the home. Detachable shelves are attached to the peg board for display of color telephones and other equipment. The unit is mounted on two eight-foot tables decorated with display paper.

Displays of color telephones in company business offices have also proven to be an effective sales aid. Emphasis is given to color sets because of their appeal and because they are good revenue producers. We charge 25 cents per month for color.

THE current recession has not had great impact in the company's operating territory. Basically, we are an agricultural community, although the movemen of industry to the state has gained great momentum in recent years. The prospects for crops this year are excellent and the demands for both local and long-distance service continue. The company's investment in telephone plant has doubled in the last eight years and our construction budget for this year and next will remain geared to this tempo of growth.

The Lorain Telephone Company

Lorain, Ohio

H. E. HAGEMAN
President

We are operating in an area that is growing quite rapidly. Steel and shipbuilding are down but new industries are coming into our area.

Consequently it will be necessary for us to spend approximately two million dollars for net additions to property this year and possibly more in 1959.

We have used direct dialing in Lorain for approximately two years and at present we are installing direct dialing equipment in the balance of our exchanges. The installation was to be completed in September of this year. We are also installing dialaphones for some of our customers. Electronic secretaries, hands-free telephones, hard-of-hearing telephones in any color the customer desires.

Last year we installed 48 microwave circuits between Lorain and Avon Lake. This year we are adding 48 more circuits between the same points. That installation should be completed by October of this year. We are also building a new exchange in the Avon territory. The building and new automatic equipment should be ready for service by January 1, 1959.

Our mobile service is also expanding rapidly. Present circuits are loaded to capacity. We have many requests for leased lines to various points but our feeling is that we are not securing our fair share of revenue from such lines. We are willing to provide funds for such circuits as soon as we secure favorable rates.

It is the policy of our company to provide our customers with the very latest communication equipment available. We have installed a large number of key systems in various colors in homes and business establishments and also a large number of PAX and PBX systems. In the case of the Ford Motor Company west of Lorain, we installed a 400-line PAX system, 35 trunks, 6 foreign exchange lines, and 38 teletype machines for internal operation.

We are also meeting the demand for any kind of communication service our customers are requesting.

North State Telephone Company

High Point, North Carolina

ROBBINS TILDEN
Secretary-Treasurer, General Manager

North State Telephone Company, which operates in High Point, Thomasville, and Randleman, in the Piedmont section of North Carolina, is expanding rapidly and now has a total of 31,383 company-owned stations. The company plans to spend about $500,000 during the current year for enlargement of its system. It is entering the nation-wide toll dialing system and is changing its telephone numbers in High Point to the 2-5 plan.

The cutover to the new dialing system is now scheduled for August, 1960, at which time the company expects to have around 35,000 telephones in operation.

Pacific Power & Light Company

Kalispell, Montana

ROBERT R. GORDON
Kalispell District Manager

COLOR telephones and extension sets are currently receiving advertising emphasis on the part of Pacific Power & Light Company as revenue builders for its 10,000-customer telephone operation in the Flathead valley of northwestern Montana. Advertisements placed in the one daily and four weekly newspapers serving the area stress convenience and home beauty themes.

They are interspersed with long-distance promotions keyed to appropriate holiday seasons, plus "Yellow Pages" promotion for the redesigned directories, which now feature distinctive photo covers.

Other specialty services, such as "key telephone systems," remote speakers, and answering service equipment, are being promoted by direct sales methods.

As a result of an extensive modernization program which has required investment of more than $1,375,000 since its start in 1955, about 88 per cent of the system now enjoys modern seven-digit dialing. The improvement program also has included considerable expansion of long-distance facilities.

Rochester Telephone Corporation

Rochester, New York

F. MARK CLARK
Commercial Superintendent

I AM happy to report that our merchandising and sales efforts in 1958 have made possible a good station gain during this period of economic recession. This has been accomplished through the sale of residence extensions by our business office and plant personnel. The personal effort has been supported by advertising on radio, signs on our trucks, and by bill inserts. Coincident with this drive we have, of course, pushed colored telephones. We plan to promote "Christmas gift of extensions in color" again this year. On the business side, we have been able to replace, or forestall the purchase of, several medium to large privately owned dial PBX's which resulted in a gain of several hundred PBX extensions. We have also been successful in selling automatic answering service to a sizable number of our customers.

During this year, we have installed a large number of outdoor public telephones in profitable locations.

WE expect to continue our efforts on these fronts in 1959. In addition, we plan to intensify our efforts to sell the better grades of residence service, and we shall offer a prewiring package to home builders. We shall also attempt to sell equipment and leased lines for burglar and fire alarm purposes to our business customers.

Rock Hill Telephone Company

Rock Hill, South Carolina

F. S. BARNES
President

COLOR TELEPHONES: Our company began in 1950 offering color telephones to our subscribers without special sales effort and with a special service connection charge to cover the additional cost over the regular set. This step was taken first in order to evaluate the customer reaction to these sets and this basis of making them available. We were well satisfied with the results and consequently decided to undertake a program of sales stimulation. This has been accomplished through newspaper and radio advertising and publicity in our own telephone directory. This publicity is being followed up with a business office and installer sales program.

We plan to continue our program of offering these sets on this basis, but will try to avoid overselling. We have found that the offering of color telephones received a favorable reaction from our subscribers. It contributes to the feeling that the telephone company is progressive in trying to bring new and attractive services to the area.

Telephone Extensions: The number of our residence extension telephones is low compared to other services. We have publicized the convenience of extension telephones in an effort to increase the residence extension development. This has been supplemented by an employee sales program which has produced some results. At the present time we are planning a broadening of the employee sales program to provide additional interest and stimulation of residence extension sales by the employees.

Multiple Subscriptions for Existing Subscribers: We have initiated on a limited basis a program to produce multiple subscriptions. We feel a stronger sales effort should follow our program of upgrading all subscribers who have requested a higher grade of service. We have a backlog of these requests at the present time which have built up during a period of unprecedented growth.

Telephone Paging Service: We have none in service and no plans for installation of this service.

MOBILE TELEPHONES: We have had very scattered requests for this service prior to the current year. There has been interest in mobile telephone service but there has not been the willingness or ability to subscribe at the necessary rate. The requests have increased recently and there is more indication it will be feasible for our company to install an initial unit. We are at present planning a system to be installed in 1959. In addition to the mobile service, we hope to install an initial microwave system for toll service between Rock Hill and Lancaster, a distance of 21 miles.

Leased Lines: Leased lines have been furnished by this company as needed by our subscribers and those of our connecting companies. An effort is being made at the present time to sell an improved type of private line circuit to these subscribers.

Conference Service and Telephone Answering: We have installed for a number of our subscribers electronic secretaries. Our experience has been that the usefulness of this device is impaired by malicious

calls to these units. This annoyance has caused a number of subscribers to discontinue the service. At the present time we are installing the machines on the basis of a three-month contract. Some subscribers have a very definite need for this type of service and it helps public relations for us to offer it.

New Subscriber Campaigns: During the last decade this company has experienced unprecedented growth. Meeting this growth has prevented establishing desirable plant margins. At the present time emphasis is being placed on restoring adequate plant reserves and reducing our backlog of requests for upgraded service. When this job is in hand an effort will be made to secure new subscribers through a stepped-up sales effort.

The growth of our company has been rapid and steady. This trend is continuing. For this reason the current recession has had no appreciable effect on our present or future programs.

The Southwestern States Telephone Company

Brownwood, Texas

D. T. STRICKLAND
Vice President and General Manager

THE continual boom of the economy in the Southwest has resulted in ever-increasing station gain and toll volume for The Southwestern States Telephone Company.

Mr. Chester H. Loveland, president of the company, said that the so-called business recession in some parts of the United States has had little, if any, effect on the areas served by this company in the Southwest. The company serves 128,000 telephones through 170 exchanges in Texas, Oklahoma, Arkansas, and Louisiana.

"Any decline in the economy has been more than offset by an increase in farm production as a result of favorable rainfall," Mr. Loveland added. Because of this, the company is maintaining its near record $7.2 million construction program in 1958 and planning a tentative construction program of $6 million in 1959.

Indicative of the sustained business activity in the area served by The Southwestern States is the fact that the company gained 3,192 telephones during the first six months of the year, bringing the total number in service at June 30, 1958, to 127,987. This is a 6.5 per cent increase over a year ago. Offered toll calls handled during the first six months of 1958 amounted to 5,609,000—an increase of 8.8 per cent over the same period in 1957.

Converting to dial operation at a rapid pace, 85 per cent of the company's telephones are now dial operated, compared with less than 25 per cent dial ten years ago. Twelve exchanges are to be cut over to dial in 1958 while 14 exchanges are slated for conversion to dial in 1959. Only ten of the company's exchanges will be nondial by the end of next year.

THE company has been conducting an extensive merchandising and sales program for the last eighteen months which has resulted in substantial increase in revenue. Emphasis has been placed on the sales of extension telephones and on the sales of special facilities and services, such as PBX, PABX, intercommunica-

tions systems, answering services, electronic secretaries, etc.

As a result of the merchandising program, which involves efforts of every employee on the sales team, the number of units of special equipment sold during the first six months of 1958 has increased 128 per cent over the number of units sold during the same period in 1957. In addition, a 48 per cent increase in extension telephone gain was marked up for the six months' period ending June 30, 1958, as compared with the six months ending June 30, 1957. "Recognizing such benefits from our merchandising program, we plan to continue merchandising our services this year and in 1959, emphasizing merchandising and sales to an ever greater extent in the future," Mr. Loveland said.

The company is continuing its policy of applying to the various regulatory authorities for exchange rate increases required to produce a reasonable return on the investment. During the first six months of 1958, rate increases were granted and placed in effect that should produce additional annual revenue of $210,000. Also, this year, the company received decisions granting rate increases, effective at various times after July 1, 1958, that should produce additional annual revenue of more than $400,000.

Now the sixteenth largest of the independent telephone companies in the nation and the second largest of the 600 independent companies in the Southwest, The Southwestern States Telephone Company is planning ahead today for an even greater communications future tomorrow in the rapidly expanding area it serves.

Sunland-Tujunga Telephone Company

Sunland, California

ALLAN R. STACEY
Vice President and Manager

Plans for Our Merchandising—1958-59

For the past several years the Sunland-Tujunga Telephone Company has been aggressively promoting the usage of colored telephones, telephone extensions, and special services. The recessionary trend during the first six months of 1958 focused the attention of the company upon the sources of its gross operating revenues. As a result of studying these sources the Sunland Company came to the conclusion that primary service exchange and toll revenues are the backbone of all revenues. This becomes most evident when an attempt is made to spread a proposed total annual rate increase across the rate structure of a company. In doing this one quickly sees that primary service revenues are the "protein" and revenues from service connections and special services are really only the "garnishing" in the revenue diet.

Accordingly, the Sunland Company programmed for commencement in September of 1958 a two-way program: (1) a personal visit by a telephone company representative upon the premises of each business subscriber served by the company, (2) a house-to-house solicitation of premises not now using telephone service in order to "sell" primary service installations.

The purpose of the personal call upon the business accounts is to candidly ask the question, "What can we do to improve

your telephone service?" and only incidentally to sell additional telephone services. This is a continuing practice with the Sunland Company and the endeavor is made to contact each business subscriber once every three years.

The purpose of soliciting nontelephone premises is to expand the primary service installations of the company. This is in contrast to past practice wherein the company waited for the customer to beat a path to the commercial office door with his order for telephone service. It is our belief that man power expended upon soliciting primary service will be more productive than the same man power expended on selling the "fringe benefits" of colored telephones and special services.

As to whether the current recession has had an impact upon our present or future construction programs, we have closely scrutinized our 1958 budget and our 1959 budget with the result that certain items received a decreased allocation and other items received an increased allocation. The overall result was the expenditure of about the same amount of money as previously programmed. We believe that now is the time to build the plant margins and prepare for more rapid growth during 1959 and accordingly have not made a radical slash in our construction program.

Telephone Services, Inc.

Lima, Ohio

GEORGE B. QUATMAN
President and General Manager

We in the telephone service of Ohio system are concentrating highly on the installation of automatic billing and machine accounting.

We have prepared a new rate route guide showing the ABX numbers and areas for all exchanges now using seven digits and a code in the route for all exchanges that have not as yet placed into service seven-digit telephone numbers.

Thus when the tickets are made manually by an operator, the use of these codes are part of the route. Subsequent accounting of the tickets is done automatically and automatically combines itself with the subscribers' rental service, thus taking care of 100 per cent accounting, both person-to-person, station-to-station, and collect calls. After this step is completed the automatic ticketing will be placed into service, whereby this information is stored as the operator dials, thus eliminating the making of any tickets at all or any accounting of any kind, whatsoever, manually.

United Utilities, Incorporated

Kansas City, Missouri

ALDEN L. HART
President

The diversity and stability of areas served by the United System were demonstrated during the recent period of general business decline by substantial and

normal increases in gross operating revenues and net income for the first six months of 1958 as compared with the corresponding period in 1957. Gross revenues for the semester were up from $16,248,435 in 1957 to $18,411,787 in 1958, or 13 per cent. Net income available for common dividends and surplus also increased by 13 per cent, from $1,555,482 to $1,752,637.

These generally favorable income trends during the period enabled the system to carry forward without impairment the largest budgeted construction program in its history. For the 1958 budget year, this construction program totals $20.2 million in telephone operations and approximately $800,000 in other public utility and propane services. The aggregate of approximately $21 million programmed in 1958 compared with $18.3 million for gross property additions in 1957. Customer growth continued to show normal trends.

INTENSIFIED sales and merchandising programs have been introduced in many of the operating subsidiaries. These programs have been reflected to a modest degree in 1958 operations but are expected to show to greater advantage in the last quarter of the year and particularly in 1959 and future operations.

These merchandising programs have been focused upon five principal objectives. These are:

(1) General public information
(2) Employee sales training
(3) Specific upgrading campaigns
(4) Specific telephone extension sales
(5) Special equipment sales

Basic to this merchandising effort, progressive steps are being taken in the following spheres:

(1) Increased and selective newspaper promotion
(2) Radio advertising promotion
(3) Employee sales training
(4) Window, counter, and civic displays
(5) Advertising bill inserts
(6) Traffic studies in selection of busy lines for customer contact follow-up

In the field of telephone extension development, colored instruments and Ericofon equipment are being featured. The companies are also encountering considerable success in the sale of special features in private automatic branch exchange service installations, including particularly paging, loud-speaking, and conference services.

AS a principal source of public and employee information, some of the subsidiaries are currently designing and experimenting with suitable mobile display units capable of providing an interesting and informative source of acquaintance with telephone usage and equipment possibilities. Such a unit will be featured in local exchange-by-exchange campaigns, co-ordinated with newspaper and radio announcements and employee merchandising efforts.

West Coast Telephone Company

Everett, Washington

L. GRAY BECK
Vice President and General Manager

OVER two years ago, West Coast Telephone Company entered into active merchandising for the same compelling reasons that influenced other telephone companies to adopt this new approach to the marketing of their services. Our plan involved the formation of a Merchandising Committee to guide our marketing and the adoption of a comprehensive sales program. Today, we consider both parts of our plan to be highly successful, as evidenced by the results achieved.

In the first twenty-four months, our sales program, which involves about 350 employees in several classifications, grossed more than $500,000 in increased annual revenue. Furthermore, this gain, which has actually increased our monthly exchange revenue by approximately $43,000, includes no primary service sales. Our Merchandising Committee has kept profit uppermost in mind, with the result that our approach to selling is well oriented along these lines. Extension telephones, color, and push-button instruments along with other highly profitable items of supplemental equipment make up the bulk of our sales.

We also feel that we have realized these results at a minimum of cost. Our aim has been to achieve widespread participation on the part of employees who in the course of their work activities come in contact with the public. Comparison of accurately measured sales performance, prompt recognition of results, and a continuing stimulation program have generated the enthusiasm needed to make this type of program successful.

AT this time, we are accelerating our sales program as one means of combating the effects of the current recession. We are particularly emphasizing the "profit oriented" sales approach. As is the case with many telephone companies, we have reduced the tempo of our construction program.

As we see it at this time, the future of our company is just as dependent on intelligent, aggressive merchandising as that of any industry. Therefore, we plan to expand our program to include presently undeveloped potential and to take quick advantage of new markets created by future product development.

Western California Telephone Company

Los Gatos, California

LYNDON FARWELL
President

Memorandum on Merchandising

WESTERN CALIFORNIA TELEPHONE COMPANY is just getting under way with a merchandising program for extensions and colored telephone sets.

We are using displays of colored sets

in our public offices, advertisements in local papers, and bill inserts. Inserts picturing the colors available were sent out in the August telephone bills. It is too soon to evaluate the results of these, although a good many inquiries were received immediately after the bills went out.

We have installed colored telephones in the furnished model homes in several of the better housing tracts in our exchanges. In one very popular subdivision we also set up a display in the tract office, right along with the displays of paint, tile, and flooring choices. This enabled the prospective home buyers to choose colored telephones as they picked out the color schemes for their homes.

We have also installed several telephone answering devices which have been principally stimulated by our commercial representative at such times as he has been called upon by our business subscribers regarding other telephone studies. Some installations have also been the result of our subscribers hearing such equipment in operation as a result of their making calls to those numbers which have telephone answering service equipment.

Winter Park Telephone Company

Winter Park, Florida

J. K. GALLOWAY
Executive Vice President

Historically, the Winter Park Telephone Company has been one of the fastest-growing independent telephone companies in the United States. At the end of the war as of December 31, 1945, the company had 1,936 stations and an investment of $326,000; at the end of 1949 there were 4,009 stations with an investment of $900,000; and as of June 30, 1958, stations increased to 14,804 and the investment was nearly $5 million. The station increase for the calendar year 1957 was 2,355, or 20.7 per cent.

During this period the company at no time had more than 200 held orders for initial service.

In 1948 the company converted from common battery to dial operation expecting that building and central office facilities at that time would be adequate for several years. The accelerated growth showed the error in this estimate. Consequently a new central office building was constructed in 1957 with a foundation for five stories on a plot of ground which contains almost four acres near the center of Winter Park. That building now houses 5,500 lines of central office equipment. The size of the plot makes it possible to expand building facilities to whatever the future may require. It is expected that a new commercial office will be located on this property in 1963 or 1964.

The Winter Park Telephone Company exchange area is located to the north of the Southern Bell exchange in Orlando, Florida. The Orlando exchange has 63,000 stations. On September 15, 1957, non-optional extended service was made available to telephone subscribers in both areas in order to meet the metropolitan communication needs. Adjustments upward of telephone rates were made at that

time to meet the cost of this extended service.

THE company has expanded its facilities to meet the population needs of the area served, estimated now to be 45,000, and expects to continue that expansion to meet the needs of the population which is conservatively estimated to be 68,000 in five years.

In meeting the service needs of the area the company has offered substantially all of the modern telephone conveniences including colored telephones, mobile telephone service, leased lines, conference service, key systems, private branch exchange systems, answering equipment, and such other services as most telephone companies are called on to provide.

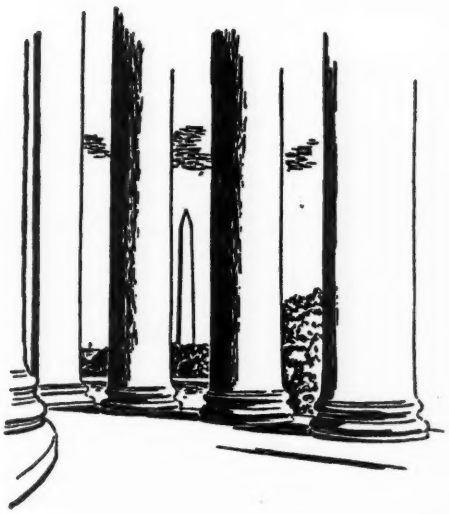
We have not found it desirable to "sell" service to the public because of the difficulty in meeting the expressed demand for service. We have, however, trained most of our people in sales and, through company personnel, sell readily available services such as extensions and colored telephones. The advertising program of both the Bell system and the independent industry has acquainted our customers with the availability of new services and has been of substantial benefit to us.

In order to finance such rapid expansion, it has been essential to insure that the company had adequate rates, thereby insuring that the company would be in a position to offer its securities advantageously to the public. The company has sold bonds, common and preferred stock during the course of the last several years, and has utilized the excellent services of the utilities department of the Chase Manhattan Bank for interim funds. Careful budgeting and reasonably accurate forecasts have made it possible to maintain acceptable financial structure ratios throughout this period of rapid growth.

CENTRAL Florida, perhaps one of the fastest-growing areas in the United States, has not been adversely affected by the decline in business activity experienced in other areas, in spite of the fact that we suffered severe citrus and produce losses during the last winter season. The industrial expansion of Florida and the ever-increasing number of retired people seeking the attractiveness of central Florida environment have overcome any tendency toward a business slowdown.

It is apparent that central Florida holds very promising prospects. Conservatively, it is expected that our population will more than double in the next ten years. With the realization that our business increases directly in proportion to increases in the population, it is evident that our training programs, organizational planning, public and employee relations, and the continued development of new facilities will continue to require good management and careful planning to meet the public need for telephone service.

Washington and the Utilities



Menomonee Falls Case

THE Wisconsin (Bell) Telephone Company has won the first round in a case involving its application before the Federal Communications Commission to acquire the telephone plant and properties of Menomonee Falls Telephone Company and Lisbon Telephone Corporation. FCC Hearing Examiners James D. Cunningham and Charles J. Frederick recently handed down an initial decision, subject to review by the commission, approving the application of the Bell system company.

The United States Independent Telephone Association intervened in the case. Its principal arguments against the proposed acquisition were: (1) The Bell system occupies an overwhelmingly dominant position in operations and manufacturing in the telephone industry; (2) the proportionate share of Bell telephone business has steadily increased in relation to the total telephone business of the country; (3) Bell acquisitions have rapidly increased in recent years and its policies have defeated competition from independents in acquiring new properties; (4) Bell refuses to "liberalize" its acquisition policies; and (5) the loss to independents of telephone properties weakens the manufacturing segment of the independent telephone industry.

USITA has long contended that where an independent company could expand, or a different independent company could take over to accommodate suburban and rural areas contiguous to a large city served by Bell, it is in the general public interest for an independent company, rather than a Bell associate, to render such service. In answer to this argument, the FCC examiners pointed out that both independent companies and Wisconsin Bell were aware that the Menomonee and Lisbon Falls companies were unable to provide adequate service; that all parties were on notice that the properties were up for sale; and that there is still no business offer, which either the Wisconsin commission or the FCC could take cognizance of, from any independent company to acquire the properties. Said examiners:

> On the basis of the facts in this case, this commission should not require postponement to an undetermined time the expansion of a telephone company (operating a large metropolitan exchange)

to surrounding and contiguous territory when an independent company operating in surrounding and contiguous territory is either unable or unwilling to provide adequate service—solely on the ground that some other independent should be substituted for the backward incumbent company.

THE examiners also rejected the implication in USITA's arguments that the Bell system has violated the Hall memorandum. The decision pointed out that memorandum is not a contract and not binding on AT&T or any independent. Furthermore, the examiners found no facts in this particular case "that the propositions advanced in this memorandum have been deviated from in concluding this transaction."

The decision of the examiners accepted the argument of the Bell system that in the administration of § 221(a) of the Federal Communications Act, the law intends that an acquisition or exchange of properties is to be determined on a case-by-case basis. The function of the FCC, therefore, is not to decide whether a possible purchase by someone else might be in the public interest but only to decide whether the proposal contained in the application in question is in the public interest. Said the examiners: "Section 221(a) is clear on its face that there is no indication that approval must be dependent upon a finding that acquisition by the particular applicant would provide the only means for the rendering of satisfactory service to the public at large."

USITA's argument that approval of the Bell acquisition would be contrary to the public interest because of an alleged diminution of the relative position of independents in relation to Bell was also rejected by the FCC examiners. Said the decision:

> . . . It is again pointed out that the history of the independents and the Bell system does not show a disadvantageous correlation in the progression of the growth of the independents on the one hand and the Bell system on the other. Only a small portion of the decrease in independent properties is attributable to Bell acquisitions. It would be carrying the cogency of USITA's argument to an extreme to hold that the subject transaction would jeopardize the position of the independent telephone companies in the overall picture of the nation-wide telephone industry.

THE decision pointed out that, contrary to USITA allegations, there were no facts in the case to show that the Bell system had any "crushing competitive advantage" in negotiating for the acquisition of the properties. The examiners also said that possible injury to the independent manufacturing industry as a result of this acquisition was such a remote factor that it could not be the basis for denying adequate service to Menomonee Falls and Lisbon.

Utility Ad Hearings

HEARINGS scheduled for this month by the Federal Power Commission on budget-accounting treatment of utility advertising expenses probably will not be held until next year. It will be recalled that the FPC, in an August 1st order, asked for views on the way 76 utilities participating in the electric companies advertising program in 1957 treated the cost of the ads, some of which dealt with the government *versus* private power issue. The FPC staff thinks these costs should be accounted for as a miscellaneous income deduction rather than an operat-

ing expense, and recommends an amendment of the rules to that effect.

A prehearing conference had been set for September 9th for the purpose of defining the area to be covered in the October hearings. This conference has now been postponed until December 4th, and some of the utility companies involved have requested that the hearings be postponed for thirty days after the prehearing conference. Since this was the original plan, their request is likely to be granted, which would put off the full hearing until some time in early January.

THERE is a possibility that before the FPC gets around to ruling on these advertising costs, the Internal Revenue Service will revise its own rules regarding the treatment of such costs for income tax purposes, or at least clarify them. Spokesmen for IRS have insisted that there was nothing new in IRS Commissioner Harrington's informal ruling last February, in a letter to Senator Kefauver, holding that the cost of utility advertising which bears on public ownership legislation is not deductible as a business expense for income tax purposes. IRS, however, has plainly not been deaf to criticism of the ruling, not only from private utilities, but from a sizable portion of the nation's press. The result is that IRS has invited the utilities to come to Washington to discuss the matter.

The hope is not strong that the IRS will be persuaded to reverse its stand, in view of the present economic and political climate in Washington. There is a chance, however, that the talks will result either in IRS recommendations to Congress for clarifying legislation or a rewording of the IRS rules to define more sharply the kind of advertising, the costs of which may not be considered a business expense.

THE ruling might be narrowed, for example, to cover only those ads directed at specific or proposed public ownership legislation, such as the recent TVA self-financing legislation, leaving the utilities free to comment through the medium of advertising on the pros and cons of the overall economic question of private *versus* government ownership. Utility leaders have pointed out that the federal government is in the business of producing electricity and that their right to persuade public opinion to the contrary is a legitimate business expense, since there is grave danger that the government will expand its operations in the utility business to the detriment of the investor-owned companies.

Natural Gas Merger

REPRESENTATIVES from four western states appeared before the Federal Power Commission last month to urge approval of a proposed merger between two giant western natural gas companies, El Paso Natural Gas Company and Pacific Northwest Pipeline Corporation. Ranged in opposition to the merger are the state of California and the Department of Justice, whose antitrust division claims the proposal violates the Clayton Antitrust Act.

Stating the case for the merger, Paul Kayser, president of El Paso, said the greatest problem in the natural gas business is the matter of reserves. Use of Pacific Northwest's connections with Canadian gas, he said, would assure "every single customer of El Paso and Pacific Northwest a steady flow of gas for years to come."

Kayser gave a lengthy summary of the ways in which the merger would benefit operations of both companies. He also said that if the merger were approved, the

companies would not make any rate increase for the first year of their combined operation.

The attorneys general of New Mexico, Arizona, Nevada, and Wyoming all appeared before the commission in support of the proposed merger. Fred M. Standley of New Mexico said the proposal should facilitate "more orderly development" of the gas reserves in his state. Harvey Dickerson of Nevada pointed out that his state did not have natural gas. Under the proposed merger, natural gas would come into Nevada for the first time.

California furnished the major opposition at the FPC hearings. The state's assistant attorney general, William M. Bennett, argued that the merger would not be in the public interest. "California has no wish to be made solely dependent for a commodity so vital as this upon a single supplier," Bennett said. He said California has a "real and perhaps unique" interest in the merger "because of its special position as the dominant customer of El Paso. He further argued that he believed California consumers would be best supplied with natural gas "in a possible future competitive setting."

THE conflicting jurisdictions of the FPC and the Justice Department over the merger has complicated the case. Last year, when El Paso acquired more than 99 per cent of Pacific Northwest's stock, Justice moved to block the action on the ground that the merger would create a monopoly of natural gas sales in 11 far western states. Under the Clayton Act, the Justice Department has jurisdiction to move against both stock and asset mergers. The FPC, however, may also move against asset acquisitions which were not originally involved in the merger.

However, following suit by the Justice Department, El Paso and Pacific Northwest applied to the FPC for permission to consolidate their assets, and then asked that the Justice Department suit be dismissed on the ground that the FPC had primary jurisdiction. A U. S. circuit court of appeals ruled that the antitrust suit did not intrude upon the FPC's authority. A federal district court in Salt Lake City will begin trial in November on the Justice Department suit to block the merger.

Regulatory Probe

A SUGGESTION that Congress pass legislation governing the hiring of former members of federal regulatory agencies by the industries they once helped to regulate has come from Representative Harris (Democrat, Arkansas). Harris, who heads up the House Subcommittee on Legislative Oversight, made the statement as the subcommittee resumed its probe of the activities of federal regulatory commissions.

Harris said there is a "great deal" of public concern over the fact that some agency officials, after leaving the government, go to work for the very industries whose futures they once helped to control as federal officials. The matter was brought up during questioning of Edward N. Gadsby, chairman of the Securities and Exchange Commission. Gadsby commented that a hiring ban of the type hinted at by Harris would prevent federal agencies from getting experienced men.

Gadsby told the subcommittee frankly that he would never have accepted his present position if he were barred from ever practicing corporation law privately in the future.

Financial News and Comment

By OWEN ELY

Expert Foresees Possible AT&T Stock Dividend

EVERY year or oftener the recurrent gossip of stock splits and increased dividends for American Telephone and Telegraph common makes the rounds of Wall Street. There are no better reasons this year for believing that this blue chip stock, already held by 1,625,000 owners, will be split up, than in former years.

But there are several factors in connection with recent AT&T stock performance which have been made the subject of a special study by Armand G. Erpf, partner of Carl M. Loeb, Rhoades & Co. He suggests the possibility of dividend improvement, not necessarily changing the 36-year traditional $9 regular annual rate, but perhaps in the form of a stock dividend. Mr. Erpf says "It would not take too much imagination to envisage a 10 per cent stock dividend, permitting continuation of the sacred $9 rate."

Mr. Erpf points out that in the postwar period the AT&T stockholder has received eight rights on convertible debentures and one very valuable right on a common stock offering. Averaging the nine over the 12-year period, and assuming the rights were sold, the additional income was around $2 a year. Thus the return to the stockholder has been $11 a year, or a yield of around 5.9 per cent, figured on the current price. Stockholders cannot be certain there will be regular offerings of rights in the future, he notes. So the market price of the shares does not reflect this possibility.

Offerings of new stock or convertible debentures have been necessitated in the past because the company always faces the problem of raising new capital to meet demands for expanding its service. The high degree of mechanization which it has obtained, and will continue to perfect, convinces the analyst that capital expenditures may not be as pressing in the future. Furthermore, depreciation is continuously increasing and, should construction be contained, the cash flow from retained earnings and depreciation could cover a large part of the company's expansion, thereby reducing the need for new public financing.

DEPARTMENT INDEX

	Page
Expert Foresees Possible AT&T Stock Dividend	565
Air Force Communications Contract Goes to IT&T	566
Notes on Progress with Fission, Fusion, Etc.	566
Chart—Four Fusion-Power Methods	567
Calendar of Proposed Utility Offerings	569
Tables—Data on Gas, Telephone, Transit, and Water Stocks 571, 572,	573

Air Force Communications Contract Goes to IT&T

LAST month the International Telephone & Telegraph Corporation announced in New York it has been selected by the Air Force as the prime contractor for a world-wide control system for the Strategic Air Command. It is understood the contracts for the system will be in excess of $150 million over the next three years.

The Air Force said it has "programmed" $32.6 million of fiscal 1959 funds for development and installation of the system, of which $3 million already has been released to the Air Force. Defense Secretary McElroy must approve release of the balance. Edmond H. Leavey, IT&T president, said the automated electronic system is designed to transmit, process, and display information required by the SAC commander in chief and his staff for global peacetime and wartime SAC operations.

The system, designated System 465-L by the Air Force, consists of communications, data processing, and data presentation systems. "The SAC commander will know where his people and weapons are and will be able to communicate with them instantaneously no matter where they are in the world with the new system," an IT&T spokesman said. Basic information relative to the movement and status of SAC weapon systems is introduced into the system at operational level, processed, and subsequently displayed for use in directing or controlling the SAC force, IT&T said.

The Air Force said it solicited proposals from 18 companies representing a broad segment of the electronics industry. Fifteen companies were represented in the eight proposals finally submitted to the board which selected the IT&T plan. Mr. Leavey said IT&T will utilize the capabilities of a number of other U. S. companies, both large and small, in producing the SAC system. A company spokesman said it was too early to say who subcontractors for the system will be.

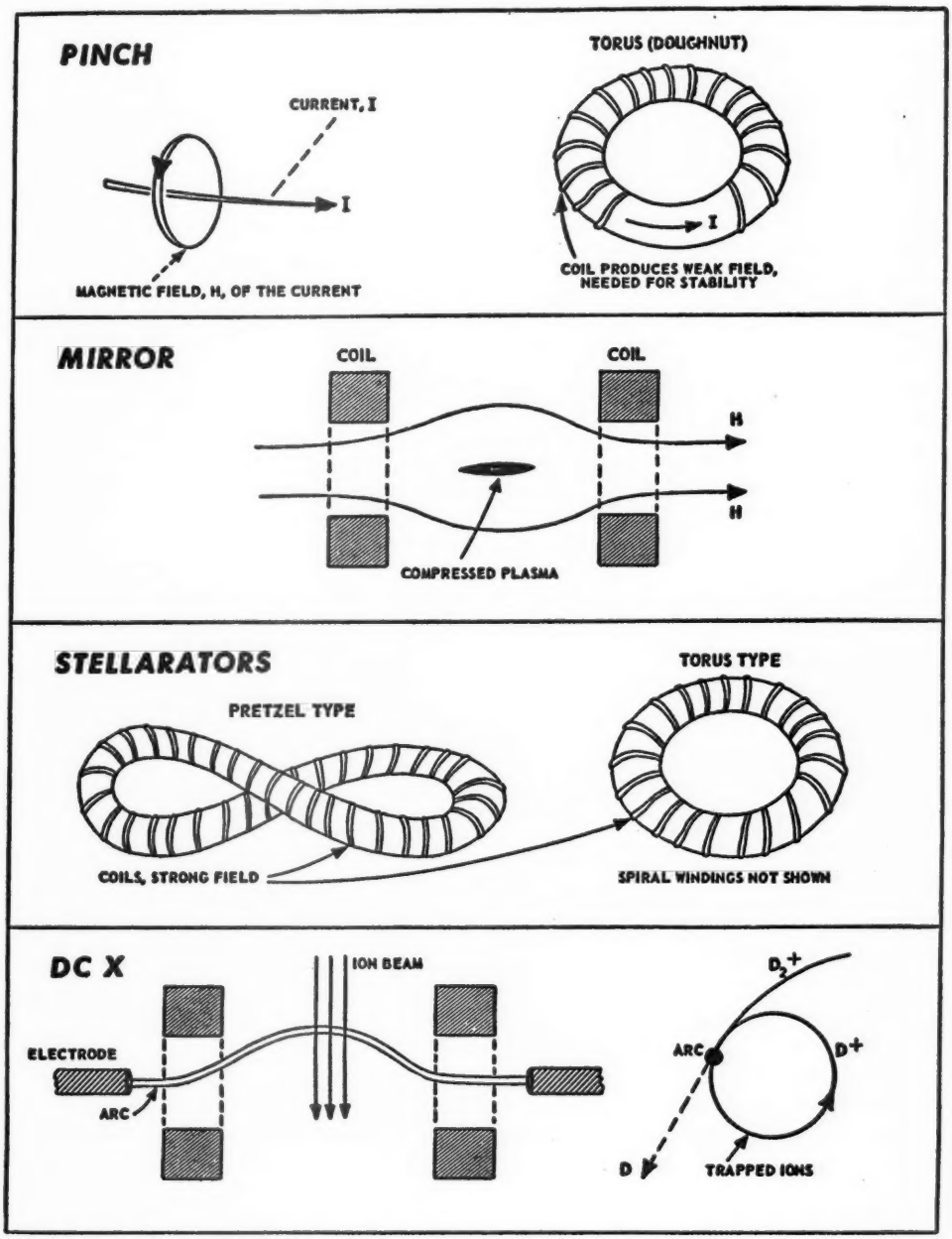
Notes on Progress with Fission, Fusion, Etc.

THE second Geneva Conference on the Peaceful Uses of Atomic Energy was bigger and better than the first, but less dramatic so far as news was concerned. Sixty-three hundred scientists, delegates, and observers participated, presenting 2,135 papers. Spurred by Sputnik, the U. S. spared no expense to beat the Russians, and our exhibits cost about $4.5 million and took up nearly half of the space. They included two operating reactors and over a dozen experimental fusion devices. The U. S. built its own power substation and set up a pipeline from Lake Geneva to provide cooling water for the machines. U. S. businessmen also put on some private exhibits and got at least one firm order, plus a number of prospects.

Estimates of profitable commercial use of either fission or fusion still remained a decade or more away, depending, of course, on the local cost of fossil fuels. It was stressed that reactors now in operation have been performing safely with few disturbances and no danger to personnel. U. S. experiments now indicate that an atomic power plant as small as a four-foot cube and weighing as little as 132 pounds can be developed to propel rockets, aircraft, etc. This suggests the possibility of other uses for such small units—unless they prove too expensive.

Russia announced belatedly that it has completed a 100,000-kilowatt atomic plant in Siberia, which has begun to op-

FOUR FUSION-POWER METHODS



Source, Atomic Energy Commission

erate; Britain has three plants generating 114,000 kilowatts; and the U. S. one large plant and seven small ones generating 81,000 kilowatts. The Russian plant, of which five more will be built, uses natural uranium as fuel, graphite as a moderator, and ordinary water for cooling. However, western scientists held that temperatures and pressures in this plant are far too low for efficient generation of electricity, and conjectured that, like most of the British plants, it is designed to produce plutonium for weapons as well as heat to generate electricity.

THE International Bank reports that atomic power can almost compete with conventional power plants in southern Italy. It is estimated that, based on Italian government financing, both U. S. and British reactors with generating costs of 11-12 mills per kilowatt-hour could compete with oil fuel power plants with costs of over 10 mills. Thus far, the U. S. has enjoyed almost a monopoly on enriched uranium for use in reactors. But at Geneva, France disclosed that it was now able to produce uranium enriched to 3 per cent, which might be competitive with the U. S. selling price. Congress has now appropriated $328 million for Euratom which will itself raise $215 million more, to build about one million kilowatts atomic power capacity. Euratom is the co-operative agency set up by Germany, France, Italy, Holland, Belgium, and Luxembourg.

In the U. S., the AEC now has a generous $387 million appropriation from Congress, but the administration may "freeze" the funds for the $145 million plutonium reactor which the President did not want—although the AEC has now learned how to use plutonium as atomic fuel. Plutonium (by-product of uranium-burning reactors) will be used in increasing amounts as fuel in the future, along with thorium (not "fissile" itself, but transmuted by nuclear radiation into the artificial uranium 233).

UNFORTUNATELY, the cost of producing electric power with atomic reactors seems to remain about as uncertain as ever. We still do not know whether enriched uranium will definitely produce power cheaper than natural uranium. (See AEC Technology Brief TI-6.) Congress has ordered the AEC to report on the cost problem, and the commission has asked private companies to bid on study contracts aimed at finding out which of three types of reactors can produce atomic power most economically—the boiling water reactor (for which low-cost claims have been made), the pressurized water reactor (thus far perhaps the most popular), and the organic-cooled reactor. Proposals must be submitted by October 15th and the commission will report to Congress by May 1, 1959.

Certainly costs are high at the one plant now operating. According to an article in *Reader's Digest* by Harland Manchester (condensed from *Popular Science Monthly*), the final cost of the Shippingport plant increased from the estimated $50 million (plus research and fuel costs) to $121 million, or over $2,000 per kilowatt-hour—as compared with as low as $115 for some recent steam plants. At present each kilowatt-hour of electricity costs about 64 mills although Duquesne buys it from the AEC for only 8 mills. The Con Edison hybrid plant—with 275,000 kilowatts partly provided by superheaters—still has an estimated cost of $90 million or $327 per kilowatt. A pit 70 feet deep and 250 feet in diameter has been blasted in solid rock to house the reactor. The project is said to be on schedule for completion by 1960.

CALENDAR OF PROPOSED UTILITY OFFERINGS*

October 1st-December 31st

Date of Bidding Or Sale	*Approx. Amount (Millions)*	*Bonds*	*Method Of Offering*	*Probable Moody Rating*
Oct. 1	$10	National Fuel Gas	C	A
Oct. 7	11	Madison G. & E.	C	Aa
Oct. 9	30	Columbia Gas System	C	A
Oct. 14	15	Idaho Power	C	Aa
Oct. 21	25	Cincinnati & Suburban Bell Tel. Deb. 1993	C	
Oct.	20	Transcontinental Gas Pipe Line	N	Baa
Nov.	40	Philadelphia Electric	C	Aaa
Nov.	15	Puget Sound P. & L.	C	A
Nov. 6	20	Indiana & Michigan Elec.	C	Aa
Nov. 18	80	Pacific Tel. & Tel. Deb. 1990	C	Aa
Dec.	10	Kentucky Utilities	C	A
Dec. 15	15	Long Island Lighting	C	A
	10	Laclede Gas	C	A
	20	Coastal Transmission	N	—
	4	Eastern Utilities	C	Baa
	5	Washington Natural Gas	N	—
	40	New England Tel. & Tel.	C	Aaa
	17	Gulf States Utilities	C	Aa
	20	Montana Power	C	Aa
	20	Utah Power & Light	C	A
	8	Pennsylvania Power	C	Aa
	10	South Carolina E. & G.	C	A
	40	Michigan Bell Telephone	C	Aaa
	110	Southwestern Bell Telephone	C	Aaa
	—	Texas P. & L.	—	Aa
	35	Northern Natural Gas	N	A
	10	Southern Electric Generating	C	—
	8	Kansas G. & E.	C	A
	7	Citizens Utilities	—	Baa
	8	Arizona Public Service	—	—
	10	Kansas P. & L.	C	Aa
	18	Hartford Electric Light	N	Aaa
	20	Northern Illinois Gas	C	A
		Preferred Stocks		
Oct. 28	10	Tampa Electric	N	
	9	Gulf States Utilities	C	
	25	Commonwealth Edison	N	
	8	New England Power	C	
	10	Northern Natural Gas	N	
	5	Wisconsin Public Service	C	
	5	Rochester Telephone	—	
	5	Hartford Electric Light	N	
		Common Stocks—Offered to Public		
Oct.	30	Union Electric	C	
Oct.	6	California Electric Power	C	
Oct.	6	Montana Power	N	
Oct. 28	20	Florida Power & Light	N	
	7-10	Columbus & Southern Ohio Electric	—	
		Common Stocks—Rights Offerings		
Oct. 2	17	Peoples Gas Light & Coke	N	
Oct.	18	Wisconsin Electric Power	—	
Nov.	—	General Public Utilities	—	
Dec.	4	Kentucky Utilities	N	
	2	Hawaiian Electric	—	
	6	Rochester G. & E.	N	
	9	Hartford Electric Light	N	

*Excluding private offerings. C—Competitive. N—Negotiated.

DR. WALTER ZINN and his associates of General Nuclear Engineering Corporation have prepared a detailed study of the cost of the various safety devices, shielding, etc., in the Edison plant, the overall figure being $11.5 million or about $70 per kilowatt. The figures are considered to be representative of those for large pressurized water reactors in the United States.

However, Dr. Zinn stated, "it would be a mistake to treat these costs as inevitable . . . rather it may be said that the hazards, which the equipment is meant to take care of, are presently real hazards in the sense that their existence cannot be disproved. Reductions in the cost of safety may come from better ways of coping with the hazards, from reductions in the cost of equipment involved, or possibly from better understanding which will prove some of the precautions unnecessary."

THERE has been a great deal of news about progress with fusion, but the field is so technical that it is difficult to appraise chances of a "breakthrough." England made premature claims last year that laboratory fusion had actually been accomplished and our own scientists have recently *almost* claimed such success. The difficulty apparently is that the tiny neutrons produced in the fusion devices may be merely by-products of the instability of the gas, and not thermonuclear neutrons or "thermonukes." In any event, some progress has been made toward the major goal of raising the gas temperature to 100 million degrees or more—10 million degrees has been achieved, or about twice the figure reported earlier. Dr. J. H. Williams, Atomic Energy Commission research director, declared "We have made real progress and we are well down the road in getting higher temperatures." AEC Member John Floberg also said "We have advanced farther than lots of people think."

OAK RIDGE scientists at Geneva reported encouraging results from the new DCX machine, which shoots a beam of high energy molecules of deuterium into a large steel chamber where an arc breaks up the nuclei and confines them until they react by fusing. Dr. Raymond Bell reported that he was hopeful that fusion would soon be achieved. "We know of no barriers to our success at this point, but they may arise once burn-out is achieved," he stated. A more powerful version of DCX, known as Ohion, with much stronger magnetic fields, should be able to obtain a self-sustaining controlled thermonuclear reaction, but the new machine would take about two years to build.

Meanwhile, work is proceeding at Princeton with the huge Stellerator. Another device, called Scylla, also considered very promising, is being built at Los Alamos. Here a group of condensers shoots a huge burst of electricity (80,000 volts) into a small magnetic coil. The resulting magnetic field compresses and heats the deuterium gas or plasma to over 10 million degrees for two millionths of a second. During that brief time as many as 20 million neutrons have been produced and Dr. Tuck of Los Alamos thinks that these represent the long-sought thermonuclear reaction, though further tests will be necessary. The intensity of the neutrons and their apparent origin near the center of the tube are cited as favorable evidence. Thus far, it is said, Scylla has behaved better than all other U. S. and British machines.

STILL another new device unveiled late in August at a meeting of the American Physical Society at Vancouver is named the Astron, originated by Nicholas Christofilos of the University of Cali-

fornia Radiation Laboratory. This is the same young engineer whose 1951 suggestion for a revolutionary new atomic accelerator was dismissed as that of a "crank," only to be developed independently some years later—following which he received $10,000 and an AEC job. The machine is described in detail in a new book *"Project Sherwood, the United States Program in Controlled Fusion."* The Astron is expected to produce a temperature higher than 10 million degrees. Still more interesting is the official statement that an engineering study, while very preliminary, indicates "that such a device might possibly be economically competitive with conventional power sources." This is far more optimistic than the usual "brush-off."

Astron is a magnetic bottle of radically different design from others, reports William L. Laurence of *The New York Times.* The main problem with all these devices is that of leakage, but in Astron the leaks are greatly reduced. However, while the theory sounds excellent, the first model must be tested further; if successful it will be followed by a larger machine which will determine the ability of the electron layer, not merely to provide the magnetic containment of the plasma, but also to heat it in a stable manner to the multimillion degrees necessary.

RECENT FINANCIAL DATA ON GAS UTILITY STOCKS

Annual Rev. (Mill.)			*9/18/58 Price About*	*Dividend Rate*	*Approx. Yield*	*Recent Share Earnings*	*% Increase*	*Aver. Incr. In Sh. Earns. 1952-57*	*Price-Earns. Ratio*	*Div. Payout*	*Approx. Common Stock Equity*
		Pipelines and Integrated Systems									
$ 5	O	Ala.-Tenn. Nat. Gas	24	$1.20	5.0%	$1.66Je	17%	13%	14.5	72%	41%
192	S	American Nat. Gas	60	2.60	4.3	4.08Je	6	12	14.7	64	33
58	A	Arkansas Louis. Gas	36	1.20	3.3	1.85De	19	47	19.5	65	52
57	O	Colo. Interstate Gas	43	1.25	2.9	1.98Je	NC	—	21.7	63	23
376	S	Columbia Gas System ...	20	1.00	5.0	1.50Je	24	12	13.3	67	44
7	O	Commonwealth Gas	8	—	—	.40De	D26	—	20.0	—	77
17	O	Commonwealth N. G. ...	43	1.80	4.2	3.21Je	13	—	13.4	56	43
11	S	Consol. Gas Util.	18	.90	5.0	1.69Ap	D7	6	10.6	53	60
280	S	Consol. Nat. Gas	49	2.00	4.1	3.46Je	D2	12	14.2	58	57
18	O	E. Tenn. Nat. Gas	12	.60	5.0	.85Je	2	—	14.1	71	20
301	S	El Paso Nat. Gas	33	1.30	4.0	2.39De	13	12	13.8	54	20
46	S	Equitable Gas	35	1.60	4.6	2.24Je	6	4	15.6	71	42
24	O	Gulf Interstate Gas	15	.50	3.3	.85De	10	—	17.6	59	21
34	O	Houston N. G.	26	.80	3.1	1.70Jy	21	8	15.3	47	27
20	O	Kansas-Nebr. Nat. Gas ..	39	1.80(f)	4.6	2.40Je	D7	12	16.3	75	32
109	S	Lone Star Gas	39	1.80	4.6	2.39Je	D2	10	16.3	75	43
75	S	Miss. River Fuel	33	1.60	4.8	2.00De	D14	2	16.5	80	49
26	S	Montana Dakota Util. ...	28	1.00	3.6	1.59Je	10	12	17.6	63	31
25	O	Mountain Fuel Supply ..	26	1.20	4.6	1.65Je	D2	8	15.8	73	62
86	S	National Fuel Gas	21	1.10	5.2	1.39Je	D3	—	15.1	79	58
129	S	Northern Nat. Gas	28	1.40	5.0	1.64Je	D12	7	17.1	85	34
43	S	Oklahoma Nat. Gas	33	1.50	4.5	2.18Jy	15	6	15.0	69	34
117	S	Panhandle East. P. L. ..	52	1.80	3.5	2.74De	—	2	19.0	66	41
13	O	Pennsylvania Gas	24	1.20	5.0	2.18De	D3	4	11.0	55	59
174	S	Peoples G. L. & Coke ...	46	2.00	4.3	2.88Jy	NC	7	15.9	69	39
101	S	Southern Nat. Gas	39	2.00	5.1	1.95Je	D16	4	20.0	103	41
38	O	Southern Union Gas	28	1.12	4.0	1.53De	—	10	18.3	73	31
313	S	Tenn. Gas Trans.	33	1.40	4.2	2.00Je	50	10	16.5	70	20
175	O	Texas East. Trans.	31	1.40	4.5	2.66Je	33	25	11.7	53	18
96	O	Texas Gas Trans.	26	1.00	3.8	2.05Je	D6	16	12.7	49	27
97	O	Transcont. Gas P. L.	23	1.00	4.3	1.46Je	4	29	15.8	68	21
300	S	United Gas Corp.	34	1.50	4.4	2.50Je	3	12	13.6	60	41
		Averages			4.3%		8%	9%	15.7	66%	

Annual Rev. (Mill.)		(Continued)	9/18/58 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1952-57	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
		Retail Distributors									
28	S	Alabama Gas	32	$1.60	5.0%	$2.73Je	24%	15%	11.7	59%	42%
44	O	Atlanta Gas Light	36	1.60	4.4	3.21Je	50	5	11.2	50	33
2	O	Berkshire Gas	18	1.00	5.6	1.25My	NC	53	14.4	80	36
6	A	Bridgeport Gas	28	1.60	5.7	2.13Je	D5	1	13.1	75	50
5	O	Brockton-Taunton Gas	18	.90	5.0	1.18De	D8	43	15.3	76	41
70	S	Brooklyn Union Gas	48	2.20	4.6	3.24Je	20	13	14.8	68	42
4	O	Cascade Nat. Gas	7	—	—	Def.De	—	—	—	—	18
39	O	Central Elec. & Gas	20	1.00	5.0	1.55Je	6	15	12.9	65	18
13	O	Cent. Indiana Gas	16	.80	5.0	1.11Je	7	7	14.4	72	67
5	O	Chattanooga Gas	6	.35	5.8	.59My	60	14	10.2	60	46
66	O	Gas Service	31	1.36	4.4	2.84Je	93	7	10.9	48	35
8	O	Hartford Gas	42	2.00	4.8	2.11My	D8	—	19.9	105	37
3	O	Haverhill Gas	22	1.32	6.0	1.95Je	D4	20	11.3	68	58
18	O	Indiana Gas & Water	24	1.00	4.2	1.55Jy	8	11	15.5	65	47
48	S	Laclede Gas	19	.90	4.7	1.37Je	20	7	13.9	66	33
5	O	Michigan Gas Util.	19	1.05	5.5	1.32Je	1	18	14.4	80	34
6	O	Midsouth Gas	15	.57	3.8	1.00Ap	54	7	15.0	57	41
43	O	Minneapolis Gas	30	1.45	4.8	1.85Je	D13	12	16.2	78	42
15	O	Miss. Valley Gas	24	1.20	5.0	2.39Je	73	14	10.0	50	33
5	O	Mobile Gas Service	23	1.10	4.8	1.89Je	70	—	12.2	58	35
7	O	New Haven Gas	34	1.80	5.3	2.36De	4	—	14.4	76	68
13	O	New Jersey Nat. Gas	37	1.60	4.3	2.71Je	17	—	13.7	59	35
80	O	No. Illinois Gas	22	.88	4.0	1.39Jy	1	—	15.8	63	54
9	O	North Penn Gas	11	.60	5.5	.85Je	D5	8	12.9	71	58
16	O	Northwest Nat. Gas	16	.72	4.5	* .99Je	D23	4	*16.2	73	39
240	S	Pacific Lighting	48	2.40	5.0	3.16Je	37	—	15.2	76	36
22	O	Pioneer Nat. Gas	29	1.40	4.8	1.74Je	NC	13	16.7	80	36
2	O	Portland Gas Lt.	12	.50	4.2	1.50Ma	127	—	8.0	33	25
9	A	Providence Gas	11	.56	5.0	.56De	D10	13	19.6	100	50
3	A	Rio Grande Valley Gas	4	.15	3.8	.32Je	24	8	12.5	47	52
6	O	So. Atlantic Gas	14	.80	5.7	1.39Ma	43	5	10.0	58	30
12	S	So. Jersey Gas	39	1.60	4.1	2.31Je	22	24	16.9	69	47
29	S	United Gas Impr.	43	2.20	5.1	2.94Je	18	5	14.6	75	64
51	S	Wash. Gas Light	45	2.00	4.4	3.44Je	36	2	13.1	58	41
11	O	Wash. Nat. Gas	15	(g)	—(h)	.55Je	45	—	—	—	41
8	O	Western Ky. Gas	14	.60	4.3	1.53Je	112	4	9.2	39	38
		Averages			4.8%		27%	10%	13.7	67%	

RECENT FINANCIAL DATA ON TELEPHONE, TRANSIT, AND WATER STOCKS

Annual Rev. (Mill.)			9/18/58 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1952-57	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
		Communications Companies									
		Bell System									
$6,313	S	Amer. T. & T. (Cons.)	186	$9.00	4.8%	$13.17My*	—	3%	*14.1	68%	64%
303	A	Bell Tel. of Canada	43	2.00	4.7	2.00De	D11	—	21.5	100	66
46	O	Cin. & Sub. Bell Tel.	86	4.50	5.2	4.93De	D12	1	17.6	91	100
232	A	Mountain Sts. T. & T.	134	6.60	4.9	8.89My	D5	3	15.1	74	73
324	A	New England T. & T.	142	8.00	5.6	8.93Je	7	2	15.9	89	55
864	S	Pacific T. & T.	138	7.00	5.1	7.59My	D16	1	18.2	90	59
108	O	So. New Eng. Tel.	40	2.00	5.0	1.90De	D13	—	21.1	105	64
		Averages			5.0%		D8	1%	17.6	88%	
		Independents									
5	O	Anglo-Canadian Tel.	35	$1.20	3.4%	$3.17Je	D2	56%	10.4	38%	55%
41	O	British Col. Tel.	41	2.00	4.9	2.08Je	D24	5	19.7	96	31

Annual Rev. (Mil.)		(Continued)	9/18/58 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1952-57	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
4	O	Calif. Inter. Tel.	14	.70	5.0	.87Je	D11	—	16.1	80	24
18	O	Calif. Water & Tel.	23	1.20	5.2	1.54Je	1	—	14.9	78	48
18	O	Central Telephone	24	1.00	4.2	1.99De	—	10	12.1	50	28
5	O	Commonwealth Tel.	18	.90	5.0	1.24Je	D16	—	14.5	73	37
4	O	Florida Telephone	27	.90	3.3	1.00My	D10	1	27.0	90	46
289	S	General Telephone	51	2.00	3.9	2.92Je	NC	32	17.5	68	34
17	O	Hawaiian Telephone	18	1.00	5.6	*1.15Je	D12	7	*15.6	87	43
7	O	Inter-Mountain Tel.	15	.80	5.3	.94De	17	2	16.0	85	63
21	O	Rochester Tel.	22	1.00	4.5	1.04Je	D25	—	21.2	96	33
4	O	Southeastern Tel.	20	.90	4.5	1.11De	D21	—	18.0	81	54
10	O	Southwestern St. Tel.	24	1.20	5.0	1.57Je	D6	4	15.3	76	35
10	O	Tel. Service of Ohio	132	1.40	1.1	8.18Je	13	NA	16.1	17	NA
34	O	United Utilities	27	1.25	4.6	1.54De	D6	1	17.5	81	40
15	O	West Coast Tel.	22	1.00	4.5	1.29Je	D13	4	17.1	77	35
260	S	Western Union Tel.	26	1.20	4.6	2.03De	D8	—	12.8	59	85
		Averages			4.4%		D8%	7%	16.5	73%	
		Transit Companies									
21	O	Baltimore Transit	6	—	—	$1.01De	124	—	5.9	—	41%
12	O	Cincinnati Transit	5	$ .30	6.0%	.52De	9	—	9.6	58%	49
65	S	Fifth Ave. Coach	19	(c)	—	2.46De	D29	—	7.7	102	68
303	S	Greyhound Corp.	16	1.00	6.3	1.22De	D4	—	13.1	82	45
25	S	Nat. City Lines	23	2.00	8.7	2.74De	12	9%	8.4	73	94
13	O	Niagara Frontier Trans.	8	.60	7.5	.77De	35	—	10.4	78	78
65	O	Phila. Trans.	7	.60	8.6	1.23De	D25	—	5.7	49	38
17	A	Pittsburgh Rys.	9½	.25	2.6	Deficit	—	—	—	—	90
6	O	Rochester Transit	4½	.40	8.9	.64De	D6	29	7.0	63	100
22	O	St. Louis P. S.	10	1.00	10.0	.57De	D17	19	17.5	175	94
15	S	Twin City R. T.	12	1.20	10.0	1.01De	D16	—	11.9	119	53
21	O	United Transit	5	.60	12.0	.87Ma	D1	11	5.7	69	51
		Averages			8.1%		7%	—	9.4	87%	
		Water Companies									
		Holding Companies									
43	S	American Water Works	14	$ .60	4.3%	$ .97Je	2%	5%	14.4	62%	17%
		Operating Companies									
5	O	Bridgeport Hydraulic	33	$1.70(f)	5.2%	$2.05De	D2%	5%	16.1	83%	53%
15	O	Calif. Water Service	46	2.40	5.2	3.20Jy	D5	6	14.4	75	33
4	O	Elizabethtown Water	42	2.00	4.8	3.90De	19	30	10.8	51	58
11	S	Hackensack Water	46	2.00	4.3	3.18De	11	6	14.5	63	38
8	O	Indianapolis Water	22	1.00	4.5	1.26De	D11	—	17.5	79	35
6	O	Jamaica Water	38	2.00	5.3	2.90(a)Je	—	—	13.1	69	26
5	O	New Haven Water	65	3.40	5.2	2.30De	D20	—	28.3	148	61
2	O	Ohio Water Serv.	28	1.50	5.4	2.05Je	D12	10	13.7	73	32
8	O	Phila. & Sub. Water	36	.50	1.5	2.93Je	D10	7	12.3	18	28
2	O	Plainfield Union Water	58	3.00	5.2	4.42De	D12	2	13.1	68	63
4	O	San Jose Water	49	2.80(f)	5.7	3.36Jy	D8	9	14.6	83	42
10	O	Scranton-Springbrook	21	1.00	4.8	1.67Je	10	7	12.6	66	29
5	O	South. Calif. Water	18	.80	4.4	1.13Je	D5	12	15.9	71	31
4	O	W. Va. Water Service	20	.68(d)	3.4	1.64Je	D5	9	12.2	41	17
		Averages			4.6%		D4%	7%	14.9	70%	

A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. NC—Not comparable. NA—Not available. D—Decrease. *On average shares. (a)—Adjusted to eliminate 13 cents per share of nonrecurring tax savings. (c)—Company took no action on dividends payable for the first and second quarters of 1958. (d)—Also 1 per cent stock dividend quarterly. (e)—Also 10 per cent stock dividend May 19, 1958. (f)—Includes extras. (g)—Also 4 per cent stock dividend June 6, 1958. (h)—Includes special credit—reduction in income taxes of 9 cents a share.

What Others Think

Relations among Business, Government, and the Public

THE public, and most people in government, recognize to a considerable extent that business must be healthy and progressive. There is a good measure of understanding that the well-being of business and the welfare of all citizens are closely tied together. Yet in spite of this, business and government sometimes work at cross purposes. This intricate, present-day relationship among business, government, and the public was the subject of a talk delivered last month before the fifty-sixth annual convention of the National Petroleum Association in Atlantic City, by Clifton W. Phalen, executive vice president of American Telephone and Telegraph Company.

Using illustrations from the experience of the Bell system, Phalen mentioned three specific ways in which government can impede the efforts of business.

The first problem, said Phalen, is government pressure to drive earnings down. He said that in the telephone business this pressure has measurably increased in the last generation. "The result has been a widening disparity between our earnings and those of other industries with which we compete for new capital. Our earnings have not kept pace.

"On top of this an agency of the federal government—one not responsible for telephone regulation—has appeared in numerous telephone rate cases, opposed us vehemently, and taken a very extreme position in favor of low earnings. Also a congressional committee suggested that our long-distance rates be investigated, even though, as I have said, our earnings have not been what they ought to be."

THE railroads and the airlines are examples of regulated industries which are finding it extremely difficult to raise the capital needed to do a good job, Phalen said, and for a single reason: Their earnings are inadequate. He stated:

> We are convinced that in the long run good earnings by industry, whether it be your business, ours, or some other enterprise, will benefit the public. In our own case we are urging that government raise its sights on telephone earnings, for we are sure that good earnings will permit us to provide better service and do it at lower cost to our customers than if we are held at a bare-bones earnings level.

The second major roadblock which government puts in the way of business progress is taxes, Phalen continued. He noted that 28 cents of every dollar people pay for telephone service today goes into direct taxes. To put it another way, about $3 a month in taxes is paid for every

telephone. One of the most discriminatory taxes of all is the telephone excise tax, Phalen said, telephone service being the only household utility that is so taxed.

". . . I realize this may not be the right moment to reduce taxes," he explained. "However it disturbs me that high-ranking federal and state officials have actually introduced legislation to transfer a portion of telephone excise tax revenues to the states. This excise tax was a wartime emergency measure to begin with; it is manifestly unjust; but instead of waiting for a favorable opportunity to eliminate it, some government effort is in the direction of making it permanent."

PHALEN said that in the long run both the public and the government will be much better off if the concern of government is to get the taxes on industry down rather than up.

A third difficulty that business runs into in dealing with government is in getting enough freedom to change, to improve, and to progress with the times, Phalen continued. Any industry must adapt to changing conditions or it will go backward, he warned. He said AT&T is spending $90 million a year on research and development to stay progressive. Even here, however, the company is having problems.

"For example," he said, "in some places in government there is a tendency to restrict our use of radio frequencies, which in turn prevents the full use of new technology. This viewpoint, if it should prevail, would certainly harm our public service and raise its cost. Many government agencies are involved in this complex problem and its solution depends on the broadest possible understanding."

Phalen believes that many of the long-range goals of both business and government ought to be the same. "Business wants to improve its products and expand its markets. This means prosperity and full employment and government is certainly in favor of those end results. Business wants freedom and opportunity, and those are the principles our government was founded on. I feel sure, however, that none of these goals will be achieved with any real success unless both the public and the government have a better understanding of our business problems."

PHALEN listed four essentials for business to help bring about such a climate of understanding.

The first, obviously, is that business must do its job as well as it possibly can. He explained:

> Our products and our services must be as good as we can make them. We in business cannot hope to succeed in anything if we do not start with this. Here begin public confidence and trust —or distrust and suspicion.
>
> My point is simply that it does not take long for the people in government to reflect these public attitudes. After all, they are intelligent, reasonable, and hard-working people. When they give us a hard time it is usually because they believe they are expressing the views of the people back home who elected them. That is their job. It is fact not theory that many of our government problems are directly traceable to complaints from "constituents."
>
> Our job then is to convince these same people back home that we are OK and the first necessity for that is to give them a good product or a good service—and give them their money's worth.

SECOND on Phalen's list of essentials is to do a better public relations job. By this, he means to get better public under-

standing of the objectives, accomplishments, and problems of business.

The whole field of public relations is, of course, quite a bit broader than obtaining public understanding. In the telephone business, Phalen noted, public relations has long been thought of as being part and parcel of the service job itself. Thus, good public relations ought to be part of every contact between the telephone company and its customers—when it sells service, when it installs or rearranges it, whenever it handles a call.

THE use of public relations to create better public understanding, however, is primarily a question of communication, Phalen explained. Communicating understanding is mainly a local job in each community, he said. In addition, it needs to be two-way: Business needs to find out and understand the public's ideas about business.

"Putting the two together, I am simply saying that understanding begins with finding a place to meet. In our case, we are spread all over the country, in thousands of cities and towns all the way down to wide places in the road. I guess that is true in the oil industry too. For both of us, then, it seems to me that all these places are the necessary scene of action. . . . we try to let our customers everywhere know about us through television and radio, through magazine and newspaper ads, and through news stories that tell of our progress and problems. However, we also try to tell our story in person, in a great many ways."

Phalen recalled one instance when a telephone company set up a trailer containing new developments and took it on tour through towns served by small dial offices. In each community this was parked outside the building, along with a telephone truck which served as an additional exhibit. "It was our local people who ran the show. Adults and children came in droves to see the equipment in the buildings, to study the exhibits, to listen and ask questions. Then everybody adjourned to the local school or church basement for ice cream."

IN many small towns today where telephone service is provided, there may be no telephone people who work all the time in those particular communities, Phalen continued. However, some of the company's employees live there. These employees who are residents get together from time to time at meetings where they are brought up to date on local telephone progress. This enables them to talk intelligently with their friends and neighbors and to be helpful to them in many ways regarding their service.

Sometimes, said Phalen, the local management team will take the initiative in organizing a town meeting just to meet their customers, talk about developments they think will be interesting to them, and find out what is on their minds.

Nor does this kind of activity have to be all in small places, Phalen explained. He cited a recent incident when 200 people in an 800-family federal housing project attended a telephone meeting where the manager talked about the reasons for changing all their telephone numbers. "They were interested, appreciative, and understanding," and they agreed it was wiser from every standpoint for the company to go ahead and change the numbers, than it would be to follow the alternative course, which would have required new facilities at a cost of $2 million.

Telephone men and women give many talks to the public in both small and large places and these talks often include demonstrations of new developments coming out of Bell system research, Phalen said. Last year there were about 180,000 dif-

ferent occasions when telephone people gave talks. About 100,000 of these were just plain talks. The 80,000 others also included the showing of a film or a demonstration of one kind or another.

TELEPHONE companies also invite the public to visit telephone central offices at any time, and at intervals hold open house; last year, he said, about a million and a half people were welcomed on nearly 60,000 different occasions. This activity works well in big cities, too. One company recently tried this method: An employee invites a guest list of her friends and neighbors, welcomes them when they arrive, and acts as their hostess. A week later another employee is hostess for another group, and so on. Thus there is a succession of "block parties," so to speak, at the telephone building.

While the telephone company is busy telling its story to people it is also busy trying to find out what they think about the company. Phalen continued:

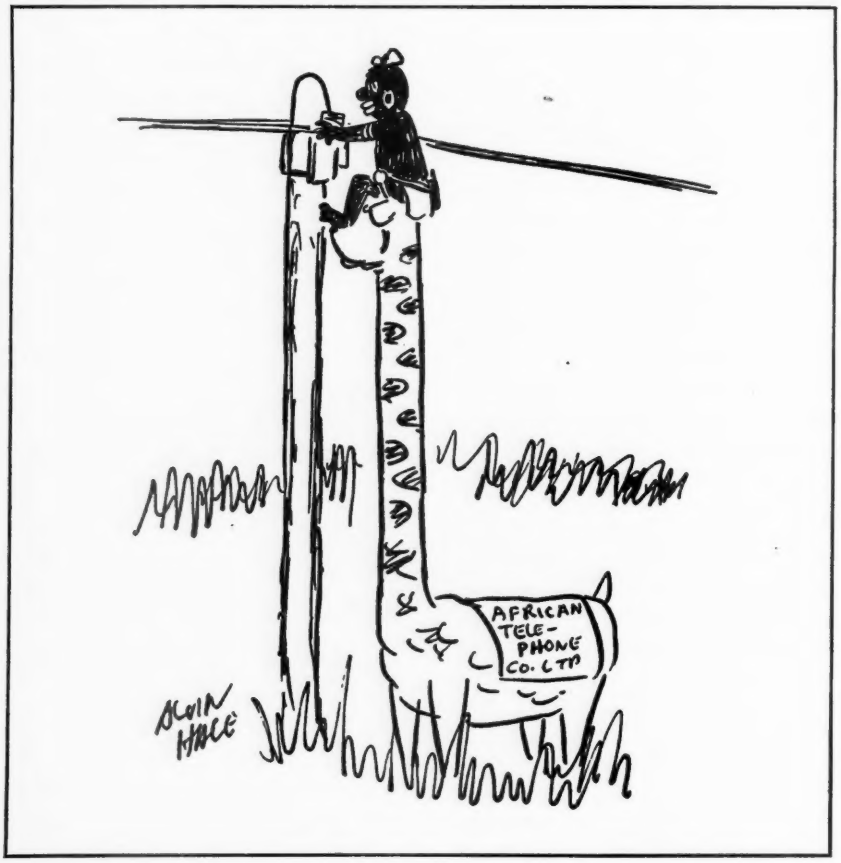
> . . . We try to learn by regular sampling surveys how people feel about our service and prices and what their general attitude is toward the company. We have been doing this for a dozen years or more and think it very useful. These surveys help to disclose or confirm trends in public attitude—they caution us against relying too heavily on our own internal measurements of service quality—and we are able to compare results and trends in different areas.
>
> In order to do this last we make our studies quite extensive and thorough. Last year, for example, our basic survey of trends in attitude covered a sample of nearly 150,000 customers in hundreds of communities in every state. This was in addition to scores of local studies on specific aspects of service, customer reaction to new instruments and new ways of furnishing service, and so on.

SAMPLING techniques also help AT&T to measure the effectiveness of local action aimed at improving attitudes, Phalen said. For instance, a few years ago the attitude survey revealed what the company calls a "weak spot" in a midwest metropolitan area. Telephone users seemed to be relatively dissatisfied with their service, and their feeling about its cost and about the company was not good. So the local management team held three meetings of all employees in that neighborhood.

Out of these meetings a specific program emerged, and all employees were fortified with information and encouraged to act as ambassadors to the public. A later survey showed a rise of 13 points in the index of public attitude toward the service, Phalen said, and an important rise in the attitude toward the cost of service and toward the company as a whole.

There are many other sides to the question of getting public understanding, Phalen continued, although he emphasized the face-to-face, person-to-person side of it because he thinks this is one of the most effective. Also, it falls in naturally with his basic point that good public relations is primarily the responsibility of local people wherever they live and work. And he adds this:

> It seems to me that really effective communication—the ability to get understanding—begins with personal conviction and complete sincerity. The local man or woman who knows what he or she is talking about and believes in it, can win far more acceptance and understanding than the polished speaker who is not at home. No slick



package that comes down from somewhere on high will ever make friends and influence people the way the local team can do it.

In short, if a business does not have public approval, it is hardly likely to get, nor does it deserve, much understanding and approval from people in government. Nor can business expect public approval if there is a failure to understand each other's problems. In fact, this is number three of the four essentials on Phalen's list—that businesses must try to understand each other and get along with each other. There must, of course, be competition, and Phalen was not suggesting that there should be any less of that.

But he pointed out that if businesses fail to appreciate each other's problems—if they are not willing to give them the same understanding and consideration that each of them expects from the public and government in regard to its own, "then I wonder if we really deserve the understanding that we ourselves ask for," Phalen said. "On the contrary, I think we are just inviting more control, more regulation, more interference of all kinds."

In the case of AT&T, because it is so large, Phalen said it is particularly important that his company treat other business with complete fairness. He mentioned four ideas or principles that guide the Bell system, with the thought that they may have some value in other industry, too:

Number one is that we think we should stick to our knitting, which is communications. We have no desire or intention to expand into the fields of other businesses. We realize that from time to time others will probably misunderstand us in this respect, but that only means we have to work a little harder to get their understanding.

Second, we must deal with other businesses fairly and also with appreciation of their problems. For instance, we deal with more than 30,000 suppliers and subcontractors and our lines interconnect with those of some 4,000 other telephone companies. Nine out of ten of our suppliers are small businesses and most (though not all) of the telephone companies are small also. Every one of them deserves respect and fair dealing and we should work with them, in effect, as though we were no bigger than they are.

Third, we make our knowledge available to others. This goes on in many ways. But as an example, I shall refer to some of the things we have been doing to spread knowledge of the transistor, which was invented at Bell Telephone Laboratories. Aside from publishing information, we have held meetings, seminars, and conferences to inform representatives of other businesses both here and abroad, and teachers as well. Some of these sessions have taken a week or more at a time, the number of people attending has been in the hundreds, and we have told them the story fully and freely.

Fourth, we work closely with other businesses in developing new services. As one example of this, our people and members of the business machine companies are putting their heads together almost continuously to try to work out the best systems and methods for data transmission.

As a final point in his address, Phalen said that if business is to have better understanding of its needs by government, it has got to do a better job of giving government people real insight as to what those needs are. As in the case of public relations, he believes the same emphasis on action by local people in the local community belongs here. The same basic job in dealing with people in government is the same business has in dealing with everybody else, he explained. "We have to know them. We have to let them see us, know us, and find out all about us. We must try to understand their viewpoints and problems. And we have to do this continuously wherever we are and wherever they are."

Phalen commended the oil industry for its plans to organize a public affairs program. He said telephone people in many different places have been working along the same lines. Here are some of the things they are considering: invitations to the local congressional representative and state legislators to come in and talk about the activities of the state and national legislatures; keeping federal legislators and local officials informed of important telephone projects planned or completed in the state of location; visiting city or town council meetings from time to time, just as good citizens, regardless of whether there is any business going on that may affect the

company; visiting the state legislature. Said Phalen:

> Activities of this kind in my judgment accomplish several worth-while things. They foster interest in government on the part of more and more people in business. They show our government representatives that we regard their work as important, and they also increase our understanding of that work. Moreover—and this is of great consequence—they let people in government see us as we really are; they build mutual respect; and not infrequently they wipe out mutual misconceptions. They do not solve all our problems, nor should they. But they do clear up some difficulties and help to build an atmosphere of trust and confidence, and that is a necessary preliminary. From here on out, we must trust the merits of our case, and work to the limit to tell our story as well as it deserves. And in doing this we must conduct ourselves in such a way as to be above reproach.

THE welfare of business is so important to the country, Phalen has little doubt that the real wish of people in government is to foster business progress. But he emphasized that government officials are and should be responsive to the thinking of people back home. Therefore, he said, it is imperative that the hometown people think well of business. This they will do, he said, if the products and services of business are good and getting better, if business obtains improved public understanding of its objectives, and if they are shown that businesses can get along with each other.

Keep the Kiddies from Direct Dialing for Fun

SYLVIA PORTER, syndicated financial writer, recounts her experiences with distance dialing in her column "Your Money's Worth." She tells how easy it was for her to dial her brother in San Diego and how she spent part of her call just dilating enthusiastically on the ease of the new long-distance phone method. In one month, Sylvia relates, she made several calls to her brother and friends in Connecticut. Also her nine-year-old daughter dialed her girl friend in New York a number of times. So when her husband, who had likewise made his quota of direct dialing calls that month, got the phone bill, he exploded, "I'll have to do something about this expense before it gets out of hand."

He also gave a brief lecture on the mixed blessings of direct distance dialing in which the Porter household concurred.

Mrs. Porter goes on to tell us that direct dialing is now possible through more than eight million phones, although many large cities such as New York, Boston, Cleveland, Washington, D. C., St. Louis, Kansas City, Chicago, and Omaha do not yet have it. However, she said,

> Right now, 45 million telephones in 2,500 areas can receive direct distance calls.
>
> Right now, more than ten million direct distance dial phone calls are being made every week—and one out of every five long-distance calls is being dialed directly.

According to an AT&T spokesman, Porter states, direct dialing will be nation wide by 1965. By then the system will be in more than 90 per cent of the phones being used. Columnist Porter con-

siders direct distance dialing a boon. She stated:

> It's a great advance, no doubt about it. Before the system was installed in our little town in Westchester county, for any call outside our immediate vicinity, I had to go through the familiar rigmarole of calling the operator, giving numbers, and waiting for a connection. That procedure made me acutely aware I was making a long-distance call.

Now, she says, "I just dial the directing code"—112 in her area—then the area code and the complete phone number. When a quick, high tone comes over the phone, she gives her own number.

Has the system increased long-distance phoning? Porter relates that the total of long-distance calls has soared from 7.9 million a day at the start of 1956 to more than 9 million a day now. A Bell telephone official says the increase in the use of phones can hardly explain it all.

"Your Money's Worth" columnist concludes with telling us that she thinks direct distance dialing is a welcome time saver. But she points out it can also be a painfully expensive joy if you do not remember that twirling the dial starts quarters and half dollars—not just dimes—moving from your pocketbook to the telephone company's profit sheet. As for the kiddies moving in on the direct dialing just for the fun of talking all over the country, it looks like another responsibility for parental authority.

— J. H.

Notes on Recent Publications

PROFESSOR J. Harold Janis has written a book, entitled *"Business Communication Reader,"* which is a collection of excerpts on improving the community skills of business management. His selections cover business culture—items such as moral values in business, the businessman in American literature, business leadership, and one grouping headed "Economic Man—A Diversity of Views." The latter includes selections by such varied thinkers as Adam Smith, Alexander Hamilton, Miriam Beard, and Washington Irving. For the harried business luncheon speaker these sources can supply just the right subject or the right background.

Still, there are those with plenty to say but who just do not know how. For them, models of exposition abound. The Burroughs Corporation supplies "The Story of Figures," Champion Paper and Fibre "The Story of Paper," and AT&T's Long Lines Department has an article on undersea cables.

BUSINESS COMMUNICATION READER by J. Harold Janis. Harper, New York, New York. Price $6.

A COMPARATIVE analysis of costs of operations and pricing policies of TVA and investor-owned utilities has recently been undertaken by a senior student at Princeton University, James W. Haugh. Haugh's thesis, entitled "TVA and Private Power, Operating Features and Proposed Changes," covers considerable ground, including comparative discussions of TVA and private power experience with rates, cost of producing electricity, state, local, and federal tax payments, and financing.

The author assumes that TVA is here to stay and that the development and maintenance of a better system of policy evaluation could go far toward easing the controversy which has surrounded TVA since its inception twenty-five years ago. Haugh believes that the interests of all concerned in TVA—the general public, the people of the Tennessee valley, TVA itself, and investor-owned utilities affected by TVA operations—could be guided and regulated with more attention and regularity by the Federal Power Commission or by a special commission created for the purpose, rather than the present system.

The March of Events

Leased Wire Rate Boosts Suspended by FCC

THE FCC last month suspended rate increases on private line teleprinter services by American Telephone and Telegraph Company and Western Union Telegraph Company until January 1st. The increases were to have become effective October 1st.

AT&T proposed to boost its service rates an average of 26 per cent to bring in $11 million in additional annual revenue. Western Union had planned to hike rates for the same service an average of 23 per cent to increase its annual revenues $6.7 million. The rates had been proposed as interim increases, pending the FCC's long-range overall investigation of rates and regulations of both companies for private line services.

The commission said that it decided to block the increases because the proposed new tariffs "raise questions as to the propriety of the level of the proposed rates and proposed changes in the rate structure and also as to possible effects on competition."

Alabama

Rate Rise Contested

ALABAMA GAS CORPORATION has appealed to the circuit court of Alabama in its fight for higher rates. The utility contends that a rate increase granted by the Alabama Public Service Commission falls short by $600,000 of covering a recent increase in the cost of its gas supply.

The commission had authorized a permanent rate increase, which it said would add about $2.7 million to Alabama's annual revenue. This is $700,000 less than a tentative rate increase which it authorized last spring.

The company and the commission are at odds over how the calculation of the amount of increase is figured. While Alabama Gas declared it was seeking a rate increase that would raise $4 million in additional revenue, the commission said the new rates would hike revenue by $4.5 million.

IBEW Accepts Utility's Offer

BY a close vote, Alabama Power Company members of the International Brotherhood of Electrical Workers elected to accept a contract offer of the company. The union and the company have been bargaining since August 15th when the old working agreement expired.

The new work pact is for two years and is retroactive to August 15th. It calls for

a general 5 per cent wage increase and the right to reopen the contract for discussion of rates of pay after one year. Several fringe benefits were also obtained, one of which was giving off-days on a consecutive instead of a split basis.

One issue in the negotiations still remains unsettled. The company and the union disagree that ten load dispatchers should be taken out of the bargaining unit and be considered supervisory employees. The union is against such a change, so the issue has been referred to the National Labor Relations Board for a decision. There was no work stoppage during wage negotiations.

Florida

Seek Appointed Commission

A PROPOSAL has been made that Florida's regulatory commissioners serve by appointment of the governor rather than by popular election, as now provided by law. Chairman Alan Boyd of the Florida Railroad and Public Utilities Commission announced that he will seek to have the present law changed when the legislature meets in 1959. He also suggested that the four-year terms of the state commissioners be extended to at least six years.

One of the reasons in favor of the proposed change was that there was a lack of sufficient public interest in a commission election campaign. Chairman Boyd further contended that the public interest would be better served with an appointed commission. He pointed out that a commissioner's job is so complex that it usually requires at least two years before he knows what he is doing.

Illinois

Old Controversy Ends

THE long-pending controversy between Texas Illinois Natural Gas Pipeline Company of Chicago and fourteen independent producers has finally ended with an approved settlement agreement by the FPC. It started back in 1955 when the producers terminated service to Texas Illinois under an "escape clause" in their contracts which provided for termination at the option of the producers if the FPC imposed regulation upon them. In subsequent proceedings before the FPC, the commission upheld its examiner's opinion that the producers had failed to show cause why they should not be required to obtain FPC permission before terminating deliveries to Texas Illinois.

Pending an appeal of the FPC order to the fifth U. S. circuit court of appeals, the parties agreed to a contract amendment which revised volumetric obligations extending the term of the contract and eliminating the escape clause under which the producers gave their termination notices. In giving its approval the FPC conditioned it on a showing by the parties that all court litigation had been dismissed.

Indiana

Co-op Service Dispute

THE issue of whether a co-op can refuse service or discontinue service to subscribers who refuse to join it and pay a $20 membership fee is to be decided by the Indiana Public Service Commission. The

Pulaski-White Rural Telephone Co-operative has been accused of discrimination and allegedly denying constitutional rights of its patrons.

A hearing was held in August and the Indiana commission took the case under advisement, with thirty days for filing of briefs.

George L. Diven, Indiana public counselor, said in his brief: "No one group of citizens may be granted the power to dictate the belief or membership of another citizen in any political, religious, cultural, or economic groups. The actual principles involved herein are far greater than the use of a telephone."

New Jersey

Book Cost or Fair Value?

ON what basis should an REA co-operative property be sold—book cost or present fair value? This issue has raised itself in connection with an offer of the Jersey Central Power & Light Company to buy up the Tri-County Rural Electric Company, Inc., for $917,000. The co-op's board of directors has recommended rejection of this offer, but has also asked for authority to negotiate further.

In letters to 2,500 stockholder-customers of the co-op, the board pointed out that Jersey Central's bid was based on book value, which has increased since the facilities were installed. Discussion of the bid was to take place at a general membership meeting at Freehold, New Jersey. A committee to improve electric service has unanimously recommended acceptance of the Jersey Central offer, which the company's president, Charles E. Kohlhepp, says would mean lower rates and better service, resulting in savings of $46,860 a year to co-op members.

Oregon

Illegal Practices Charged

BOTH the Pacific Power & Light Company and the Springfield city council have been engaged in a controversy over practices involved in meeting competition. The heart of the matter is that there are two electric systems, PP&L and the Springfield municipal system, offering duplicating electric facilities in the area, one being regulated and the other unregulated.

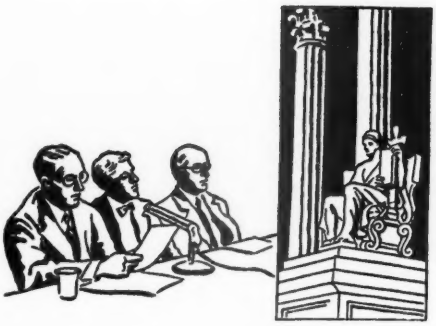
PP&L has urged putting the matter to a vote so the people can decide whether the city or PP&L should eliminate its facilities.

Such a move is now under way. The voters will decide in November. The Springfield city council has approved a $3.5 million revenue bond issue which will also be voted on—the money to be used for the purchase of the Pacific Power & Light Company's facilities.

Vote on Power Project

THE city council of Portland, Oregon, voted in August to submit to the electorate in November the question of whether the city should undertake a $5 million project to tap power resources of the Bull Run watershed. This proposal would permit installing generating equipment in the existing Bear Creek dam and a new dam under construction in the city water system.

If approved by the voters, the city would be able to build generators, transmission lines, and other necessary facilities, sell the electricity to private utilities or other industries or the Bonneville Power Administration, or use the power directly for street lighting or other purposes.



Progress of Regulation

Trends and Topics

Revenues from Directory Advertising

THE extent of commission control over telephone directories, and advertising in such directories, has received attention in various decisions relating to needs of the subscribers, right to have an advertisement inserted, errors in advertisements in the yellow pages, and the utility or nonutility character of directories and the advertising pages. One phase of the telephone directory advertising question relates to revenues from this phase of a company's business, and this has been discussed in some fairly recent decisions.

More Revenue Required

The Wisconsin commission, in authorizing a rate increase for the Mt. Vernon Telephone Company, put the company on notice that it would expect a more favorable return from the directory in any subsequent rate proceeding. Directory revenues in 1957 amounted to $100, and it was noted that there were 28 yellow pages of advertising in the directory. The commission said that, assuming a gross revenue of only $100 a page, there would be a gross of $2,800 a year. It was said to be reasonable to assume that one-fourth of this amount, or $700, should be retained by the utility as a minimum. The record in this case, however, indicated that dial conversion would add complications sufficient to warrant a delay in making new directory contracts. Re Mt. Vernon Teleph. Co. 2-U-5002, August 21, 1958.

Revenues from Separate Exchanges

The Wisconsin commission, in fixing rates for the Wisconsin Telephone Company last year, included revenues, expenses, and net operating income from directory advertising in exchange operations, since the value of such advertising to the advertiser was almost wholly dependent upon the subscribers listed in the directory, which included the advertising. The company had excluded these items from exchange operations and, in effect, treated them as a separate category. The company took the position that directory adver-

tising partakes of the nature of appliance sales by other utilities and, therefore, should not be included in exchange operations.

The company did not go all the way, however, and urge that the net income from directory advertising be excluded. The company argued that since directory advertising was not directly associated with the operation of exchanges, and since exchange rates were being set on the basis of cost at each exchange, it should be allocated in such a manner as to give equal effect to overall operations. The commission agreed with interveners who took the position that directory advertising is very closely associated with exchange operations and should be included with such operations (19 PUR3d 354, 360).

Commission or Managerial Functions

A sharp conflict of opinion arose in a rate proceeding in North Carolina when the commission decided that the Durham Telephone Company was sustaining unnecessary losses because of the management of its directory. The commission, in fixing the rate of return, took into account the fact that the company sustained a loss in having an affiliate perform directory advertising for it, whereas independent directory advertising service could be obtained with a resulting profit to the company.

Commissioner McMahan, dissenting, said that this was "about the most ridiculous departure from lawful rate making" that he had yet seen. It was said to be a direct advance further into the field of management of a utility business. He said that if the commission has the right to say that this, or any other, company must sell directory advertising space, then it has the right to require that advertising space on telephone poles be sold, or to require that unused office space at the business office be rented, or available warehouse space be let out to produce income (14 PUR3d 57).

Later the commission overruled exceptions and affirmed its original order, rendering an opinion in which it was said to be appropriate to point out that consideration given to losses or gains from directory advertising is not a "ridiculous departure from lawful rate making" nor "a direct advance further into the field of management" as set forth in the dissenting opinion, nor was it without precedent as argued by attorneys for the company. The commission referred to the decision, mentioned below, by a New York court.

Commissioner McMahan again dissented, stating that in his opinion directory profit or loss has no place in a rate case. Management, he said, for its own good reasons should be free to determine whether it will sell directory advertising or just how it will proceed to prepare and distribute its directories (15 PUR3d 421).

Views of New York Court

A New York court said that although all aspects of classified directory advertising might not be matters of concern to the commission, the commission's interest in charges for directory advertising is of a very different nature from its interest in rates charged for telephone service. The New York court

upheld the dismissal of a proceeding to compel the New York commission to direct the New York Telephone Company to file rate schedules for classified directory listings and advertisements. The court ruled that the company was not required to file such a rate schedule under a statute requiring the filing of schedules showing rates, rentals, and charges for service over its line, since listings and advertisements do not constitute service over the telephone company line.

The court said, however, that the commission has the responsibility of seeing that advertising in a directory is set up in a manner which does not unduly interfere with the use of ordinary listings and that the privilege of inserting advertisements is available to all subscribers upon the same terms and conditions. The commission's primary concern with regard to advertising revenues, said the court, is to see that the company obtains maximum revenue from advertising operations so that the amount of revenue to be obtained from subscribers for service may be reduced as much as possible, notwithstanding that advertising revenues are properly treated as part of the company's revenues (12 PUR3d 127).

Review of Current Cases

Mobile Communications Service by Telephone Company Held Subject to State Commission Jurisdiction

THE California supreme court affirmed a commission order (17 PUR3d 200) accepting a telephone company's tariff covering the installation, leasing, and maintenance of private mobile communications systems. Private operators of such service had claimed that it was not a matter subject to the state commission's jurisdiction; that the commission, by its order, had denied them due process and equal protection of the law; that assertion of jurisdiction conflicted with the Federal Communications Commission's jurisdiction; and that a consent decree entered in New Jersey precluded the furnishing of such service by the telephone company.

The fact that the telephone company leased the equipment and did not remain in control was held not to affect commission jurisdiction. Ownership of any plant or equipment for the transmission of telephone messages is sufficient to confer jurisdiction on the commission; operation and control are not prerequisites. Ownership may be of any part of such plants or equipment, so that it was immaterial that the company did not remain in control of the systems it leased or did not furnish a radio channel over which the equipment was operated.

The fact that the systems could be obtained from sources other than a public utility did not detract from the utility nature of such service offered to the public under a voluntarily filed tariff by the telephone company, said the court. The service was "for the transmission of telephone messages" or "in connection with and tending to facilitate the communication by telephone," and if dedicated to public use, was subject to commission jurisdiction. The fact that only a restricted portion of

the public was eligible to apply for the service was not determinative of the dedication by the telephone company. It had been offered to all of the public who might be eligible to apply for it and such a dedication to a portion of the public would suffice, said the court.

Petitioners had not been denied due process and would have no occasion to complain that they had, until the commission attempted to regulate their activities. Neither were they denied equal protection by the fact that a telephone company competed with them in such service where there was no unfair competition and the rates prescribed by the tariff for the service were found to be fair and reasonable.

Regulation of private mobile communication service fulfilling a specialized need is not outside the permissible spheres of government regulation, pointed out the court, and does not contravene the Fourteenth Amendment. Where the control is for the public good, any industry may be regulated, provided there is adequate reason; *i.e.*, to achieve a purpose wihtin the police power of the state.

The commission, when it found that private mobile communication equipment was necessary in a public telephone company's performance of its duties, and that the leasing was subject to its jurisdiction, had the power to establish rates for such systems in lieu of contracts and to alter or permanently suspend proposed rates or establish other rates which it found to be just and reasonable.

Since the proposed tariff applied only to service within the state and since the FCC had not asserted jurisdiction over such tariffs, the commission had jurisdiction to regulate rates.

The court also held that a consent decree that had been entered in a proceeding under the Sherman Act did not disclose an intent to prohibit service by a telephone company.

The utility company was not precluded from continuing to furnish equipment and facilities for private mobile communications systems. Under the federal antitrust laws, where no trial is had and no testimony taken, a consent decree is not evidence of, or admission of, any of the charges contained in the complaint. *Commercial Communications, Inc. et al. v. California Pub. Utilities Commission et al. 327 P2d 513.*

Telephone Rate Increase Denied after Adjustment for Abnormal Charges

BREAUX BRIDGE TELEPHONE COMPANY, INCORPORATED, failed to convince the Louisiana commission that it needed a rate increase. The requested increase ranged from 25 to 66⅔ per cent, depending upon the class of service.

Interest and Debt Amortization

The company complained that its revenues, under present rates, were insufficient to pay interest and principal on REA loans even without regard to any fair return on the investment over and above interest and principal. Long-term debt amounts to 90.26 per cent of capitalization. Such a debt ratio, however, was not found to be abnormal for an independent telephone company financed by the Rural Electrification Administration.

The commission pointed out that interest and debt amortization payments are not operating expenses. Interest is a payment for the use of borrowed capital just as dividends are payments for the use of

equity capital. The commission can authorize no more revenues than will be sufficient to pay operating expenses, interest on debt, and a reasonable return on the equity investment (to be distinguished from total plant investment).

The commission observed that if a utility charges depreciation as an operating expense and assesses rates that will provide a return on the plant investment, after paying the principal and interest on borrowed funds, the customers are called upon to reimburse the utility for twice the cost of the plant, first by depreciation accruals and then out of "return."

Abnormal Maintenance and Salaries

The test period chosen by the company was apparently an abnormal one. Plant maintenance costs amounted to 19 per cent of gross revenues for the year. Noting that extraordinary storm damage occasioned a large part of this expense, the commission ruled that plant maintenance expense was abnormal and must be adjusted.

Although the company served only about 1,700 customers, it claimed executive and office salaries amounting to over $17 per subscriber per year. The total bill for this item was about 25 per cent of gross operating revenues. Evidence showed that the function of the secretary-treasurer (wife of the company president), who received a salary of $7,000, was merely that of answering a few telephone calls at home.

Furthermore, the personal income taxes of executive and office personnel were paid by the company and charged as salary expense. The commission said it had never heard of this practice. It was pointed out that while the commission cannot govern the administrative policies of a company, it has the duty to determine how much may be allowed as reasonable salaries and expenses for rate-making purposes. Obviously salary expense for this company was excessive.

After adjusting for abnormalities, revenues for the test year would have been sufficient to pay interest on the outstanding debt and provide a very substantial return on the equity investment. According to the staff, after applying salary adjustments alone, and after providing for interest on debt, the net operating revenues would amount to nearly 28 per cent of the total equity investment. No increase in rates, therefore, was warranted. *Ex Parte Breaux Bridge Teleph. Co., Inc. Order No. 7537, Docket 7521, June 3, 1958.*

Telephone Service Denial Based upon Suspected Illegal Use of Facilities

THE District of Columbia commission upheld The Chesapeake & Potomac Telephone Company in its refusal to furnish service to Sports News Service, Inc., except on condition that the requested multiple line key telephone equipment and service would not be used to disseminate flash horse racing results.

The company's tariff specifically provides that service shall be furnished subject to the condition that it will not be used for an unlawful purpose. It also provides that service will not be furnished if any law enforcement agency acting within its jurisdiction advises the company that the service will be used in violation of law, or if the company receives other evidence that such service is being or will be so used.

The commission concluded that Sports News Service planned to use the telephone service to disseminate flash horse racing

results throughout the United States and Canada and that such information would be used to aid and abet illegal off-track gambling in violation of the company's published tariff.

Evidence indicated that the initial request for service was handled in routine fashion. Its president requested five telephone lines for the administrative use of the company and 40 lines in sequence tied to four "101" key boxes to be used for disseminating sports information. The company president also requested that an additional 60 lines in sequence be held in reserve for its use. A telephone company employee testified that the 45 lines requested for initial operation could handle approximately 450 calls in ten minutes.

The president of Sports News was found to have a criminal history with a record, among other things, of arrests and convictions for maintaining resorts for horse betting. It was found that he was employed by one Joseph Tollin, whose business was that of furnishing race results to professional gamblers and bookmakers throughout the country for a daily fee ranging from $10 to $50.

The commission said that it did not hold or mean to intimate that an applicant for telephone service is in the first instance obligated to prove legality of the proposed use of the service. Nevertheless, the facts in this case led to the inevitable conclusion that something more was required of the applicant than a mere disavowal of any knowledge of the pertinent details of its contemplated operation.

The commission considered the personnel of the applicant company. There was no attempt on the part of the applicant to contradict the testimony as to the unsavory character and reputation of its president.

The commission held that to grant the relief sought by the applicant would necessarily mean that the telephone company's attempted compliance with its tariff was repudiated by the commission. *Sports News Service, Inc. v. The Chesapeake & P. Teleph. Co. Order No. 4475, PUC No. 2206/568, Formal Case No. 458, August 13, 1958.*

Operator Bonus Denied as Current Expense

THE Wisconsin commission, in authorizing a small telephone company to increase rates which would produce a return of 6.5 per cent on a net book value rate base, denied a request to allow an operator bonus as a current operating expense.

The utility faced the practical problem of retaining operators at exchanges in view of the known fact that they would be converted to dial service. Consequently, a bonus of 10 cents an hour at one exchange and 20 cents an hour at another exchange was to be paid, provided the operators remained in the company's employment until manual operations were abandoned.

Liability for payment of the bonuses was unknown at the present time, commented the commission, and would remain unknown until conversion to dial operation.

Thus, it was a contingent expense, and one which should be considered a part of the dial conversion expense for ratemaking purposes. The company's request was held to be unreasonable.

The commission also dealt with the question of directory revenues, a discussion of which will be found under Trends and Topics, *ante*, page 585. *Re Mt. Vernon Teleph. Co. 2-U-5002, August 21, 1958.*

Temporary Rate Increase Authorized during Accumulation of Operating Data

STARKE TELEPHONE COMPANY, having invested considerable sums in an automatic dial system, was permitted by the Florida commission to increase rates on a temporary basis.

The telephone company was required to give bond for refund as further proceedings may indicate, after the accumulation of actual operating data over a period of twelve months.

The commission observed that its regulation of public utilities serves a twofold purpose: First, it must protect the interest of the subscribers and see that they are provided adequate service at the lowest possible cost; and, second, the commission must allow the utility an opportunity to earn sufficient revenue to operate its plant, meet its financial obligations, and earn a reasonable return on its investment.

The temporary increase here authorized will protect the public while it insures that the company will not sustain a loss from its investment in the new dial operation. *Re Starke Teleph. Co. Docket No. 5392-TP, Order No. 2635, July 9, 1958.*

Rule-making Order Properly Rescinded Without Hearing

A PENNSYLVANIA superior court has ruled on a case touching the general administrative authority of the state commission and its rule-making powers. The case goes back to 1941 when the commission issued an order nisi setting forth uniform rules and regulations and minimum rates for heavy hauling by common carriers. In 1957 a transportation company petitioned the commission for modification and clarification of the order, whereupon the commission dismissed the petition without a hearing and rescinded the 1941 order.

No Violation of Due Process

The company appealed to the superior court asserting that the failure of the commission to grant a hearing on the petition was a violation of due process and that the rescission of the order was void. It pointed to a statute giving the commission authority to rescind or amend orders "after notice and after opportunity to be heard as provided in the case of complaints."

The court held that there was no violation of due process. The 1941 order contained a provision to the effect that it would not become final and effective if exceptions were filed within a certain time, and exceptions were in fact so filed. Although the order was printed in the commission reports, it was never put into effect. The court observed that the substance and not the form of the commission's action was controlling.

Even assuming that the order could be considered a final promulgation of the commission, it was not such an order as required compliance with the statutory due process requirements cited by the transportation company, the court ruled. While the statutory notice and hearing are not restricted to the rescission or amendment of orders in cases of complaints, it cannot justifiably be extended to orders promulgating rules and regulations of general application.

On the other hand, the power of the commission to make regulations is not without limitation. Regulations are sub-

ject to judicial review, and substantial supporting evidence is essential. In any event, the court pointed out, the order was void in so far as it attempted to fix a minimum rate for all heavy haulers who were common carriers, since the commission's authority to fix minimum rates extended only to contract carriers. *W. J. Dillner Transfer Co. v. Pennsylvania Pub. Utility Commission, 142 A2d 419.*

Certificate Grant to Co-operative Found Unjustified On Appeal by Rival Privately Owned Company

THE Indiana supreme court held that findings by the state commission did not support an order granting a certificate of territorial authority to Clay County Rural Telephone Co-operative, Inc., and denying a certificate to General Telephone Company of Indiana, a rival applicant. A lower court judgment upholding the commission order was reversed on appeal by General. The territory sought by the rival applicant was originally the service area of Indiana Midland Telephone Corporation. The commission had previously declared this area open territory because of the inadequacy of Midland's service.

The court rejected a contention that the action to review the order declaring the area open territory suspended the right of the commission to grant a certificate to the co-operative. The appeal did not vacate the commission order. However, it would have been wiser, it was pointed out, if the commission had deferred action until the open-territory order was finally determined.

Findings Insufficient

General had offered evidence as to its experience, personnel, financial responsibility, proposed improvements, and an agreement to purchase Midland's business. Although the evidence was uncontradicted and unimpeached, the commission disregarded it and made no special findings on it. The court ruled that the commission was not at liberty to disregard the evidence.

Nor was any finding made on the uncontradicted evidence that the co-operative had never been in the telephone business and had no trained personnel. No finding was made as to when the co-operative could complete its proposed rehabilitation of the system it sought to operate. A finding as to the lower rates which the co-operative planned to charge was too general to permit the court to judge whether it was based on substantial evidence.

The commission should find the ultimate facts specifically and not generally, the court declared. Findings must be specific enough to enable a court to review intelligently the order which issues from them. *General Teleph. Co. of Indiana v. Indiana Pub. Service Commission, 150 NE2d 891.*

Commission Refuses to Let "Tail Wag the Dog"

THE Colorado commission relaxed a general rule that those engaged in the transportation business should not be engaged in allied businesses to which the transportation business may be incidentally appended when it granted a private motor carrier certificate to an applicant engaged in the wholesale watch material,

supplies, and repair business. The certificate authorized transportation of jewelry items for resale, and repair items pertaining to the applicant's business and normally used by retail jewelry outlets.

It is readily apparent, commented the commission, that the economic facts of life must be faced squarely. Transportation is merely a service and, although an integral part of competitive free enterprise, and in truth constituting the lifeline of our economy, it is still, nevertheless, a service only and its value is dictated by the value of the transportation service in relation to the value of the thing transported.

This concept has been basic in the formulation of rates.

Economic Feasibility

In the instant case, said the commission, it must be recognized that for the most part small incidental items to be transported cannot of themselves pay the cost of transportation. The only feasible method of affording such transportation is as part of another established business which could bear the bulk of the transportation costs. To adopt the allied business prohibition rule would be to disregard the economic fact that the industry requiring the type of transportation sought could not afford to pay the cost of the transportation.

To adopt a rule that normally in the transportation business is salutary, but which when applied to a specific case can find no economic justification, in the commission's eyes, was tantamount to letting the "tail wag the dog." Such a practice would have the effect of rendering great harm to businesses which transportation seeks to serve, would discredit regulation, and ultimately lay the groundwork for its destruction. It was not consistent with the public interest, which was the only true justification for the existence of any regulatory commission.

Territorial Limitation

Noting the serious implications of granting the authority requested, the commission endeavored to limit the authority to the narrow confines of that area justified by economic necessity. It was not its intention to grant the applicant the authority to go into the general business of transportation of packages. The applicant would not be allowed to make pickups or deliveries except for the commodities which were sold or handled by him or his customers. He was limited in the size of the package he might carry, in the type of customers he might serve, and in the area in which he might serve. *Re Tulper (Tulper Watch Co.), Application No. 16245, Decision No. 50726, July 31, 1958.*

Transfer Service Held Integral Part of Interstate Commerce

THE United States Supreme Court held that the provisions of the Interstate Commerce Act relating to the establishment of through routes, and requiring railroads to furnish facilities for transporting passengers and property between connecting lines, established that the operations of a transfer service were an integral part of interstate railroad transportation. A municipality, therefore, was barred from requiring the transfer service to secure a certificate of convenience and necessity before it could operate.

Interstate railroads whose lines termi-

nated at different terminals in Chicago had discontinued the use of a transportation company's vehicles for carrying their passengers between stations, and had arranged for the organization of a transfer service to perform the same function. Later, the city of Chicago enacted an ordinance providing that no license for a transfer vehicle would issue unless the city commissioner of licenses first determined that public convenience and necessity required additional interterminal service. The transfer service began operations, but refused to apply for a certificate of convenience and necessity, and, after the city threatened to arrest and fine its drivers, joined with the railroads in filing an action in the United States district court seeking a declaration that the ordinance was either inapplicable to it or invalid. The transportation company was permitted to intervene as a defendant.

The district court granted the city's motion to dismiss the complaint, but the court of appeals reversed, holding that the ordinance was applicable to the operations of the transfer service, and, as so applied, repugnant to the Constitution. The Supreme Court granted the city's petition for certiorari, held that the judgment of the court of appeals was a proper subject of an appeal, and that the transportation company had standing to review the judgment by appeal or certiorari, then affirming the judgment.

Statutory Provisions

The provisions of the Interstate Commerce Act, pointed out the court, established that a motor vehicle service between railroad terminals is an integral part of interstate railroad transportation authorized and subject to regulation under the act, thus precluding a municipality from exercising any veto power over the transfer service when performed by the railroads or their chosen agents. The provisions of the act not only authorize railroads to take all reasonable and proper steps for the transfer of persons and property between their connecting lines but also impose affirmative obligations on them in this respect.

The provisions of the act relating to the establishment of through routes and the transfer of passengers and property between connecting carriers manifest a congressional policy to provide for the smooth, continuous, and efficient flow of railroad traffic from state to state subject to federal regulation. National rather than local control of interstate railroad transportation is a policy of Congress, which can require a city to permit interstate commerce to pass over its streets. A city still retains considerable authority to regulate how motor vehicles engaged in interstate commerce shall be operated, and can require such vehicles to obey traffic signals, speed limits, and other general safety regulations. They may also require registration of these vehicles and the payment of reasonable fees for use of the local streets. However, a municipality may not directly interfere with railroad action made permissible by the act.

Since the ordinance was completely invalid in so far as it applied to the transfer service, the new company was not obliged to apply for a certificate of convenience and necessity and submit to the administrative proceedings incident thereto before bringing the action. *City of Chicago v. Atchison, T. & S. F. R. Co. et al. 2 L ed 2d 1174, 78 S Ct 1063.*

Combined Billing Ordered and Ruling Made on Relocation Costs

SEYMOUR WATER COMPANY obtained a 40 per cent rate increase from the Connecticut commission, though a 70 per cent increase was requested. The new rates will afford a rate of return of 5.5 per cent. The company's last rate increase was in 1952.

Contemplated plant improvements were excluded from the rate base. Although some plans had been made for the improvements, no evidence was forthcoming to show that they would actually be put into service during 1958, for which year the new rates were determined. They could not, therefore, be considered a proper part of the rate base.

Combined Billing Required

Some industrial customers receiving service through several meters complained that they were being billed as though each meter served a separate user. The commission sustained this complaint, ordering combined billing with respect to any firm located in a contiguous geographic area and comprising, in fact, an integrated industrial plant. Billing such firms as though each meter serves a distinctly separate customer is inequitable, the commission indicated.

Relocation Costs Not Expenses

The company urged that relocation costs, which could probably not be recovered from the state, should be allowed as operating expenses. The commission pointed out that this item represents expenditures of a capital nature and, if not reimbursed by the state, should go to the appropriate plant account on which the company will be entitled to earn a reasonable return. Such expenditures are extraordinary and unusual at best, said the commission, and since they do not represent uncollectible accounts for water service, they cannot be allowed as an operating expense for rate-making purposes. *Re Seymour Water Co. Docket No. 9629, August 8, 1958.*

Storm Damage Expense Recognized But Not Included in Rate Determination

ALTHOUGH the Maryland commission recognized that snowstorm damage experienced by Baltimore Gas & Electric Company in March, 1958, was properly chargeable as an operating expense, the commission thought the expense did not warrant a new rate increase at this time.

In a recent proceeding in which a substantial rate increase was granted, the company asked the commission to consider this expense, together with a proposal to create a reserve for future storm damage. The request was deferred, however, for later consideration. In the present proceeding the commission denied a further rate increase to cover the claimed storm expense.

The actual damage costs were required to be amortized over a period of five years. An amount of the cost equal to the income tax reductions allowed as a result of the damage was directed to be written off in 1958, and the remaining costs were required to be amortized over the five-year period beginning with 1958.

A rate increase to provide for the creation of a reserve to absorb future storm

costs was considered premature. More adequate experience should be accumulated as a basis for any future action in this respect, the commission indicated. *Re Baltimore Gas & E. Co. Case No. 5554, Order No. 53728, August 6, 1958.*

ICC Per Diem Car Rate Order Set Aside

A FEDERAL district court set aside an ICC order determining that per diem rates for freight car use by railroads not owning the cars were reasonable. The decision added another chapter to the chronic controversy between long-haul trunk-line railroads and short-haul terminal railroads over the price a railroad ought to pay for the use on its lines of freight cars owned by another railroad.

Trunk-line railroads are generally interested in a high per diem rate since they furnish most of the freight car equipment used by short lines. The short-line traffic terminating roads, to avoid owning many cars as surplus which must remain wastefully idle on sidings awaiting an overflow of traffic, generally favor low per diem rates, since they use the equipment of the trunk lines.

Substance of Controversy

The main controversy in the case involved the question of whether per diem, which takes account only of the time factor and leaves out altogether the use factor (distance traveled on the user's line), is a fair method of determining compensation from the car user's point of view.

The short-line roads suggested that a fixed mileage factor be determined for each road based upon the average distance in miles which freight cars move per day on their lines. The short-line railroads claimed that this could easily be determined from statistics kept by the railroads and would need to be revised only when there was a substantial change in a railroad's freight traffic pattern, and that such a factor could be used in conjunction with a uniform time factor for all railroads to produce a rate of car-hire fair to all railroads, both short and long haul.

Basically, the time-mileage plan involved a separation of the national aggregate car ownership cost into two categories, one consisting of that proportion of the aggregate cost directly attributable to mileage use and the other consisting of the remainder which was treated as attributable to the passage of time.

Under the plan, the per diem car-hire charge for a particular road is a composite figure consisting of the sum of that particular road's mileage component and the uniform national average unit cost per day attributable to time alone. It is claimed that the function, and the virtue, of this plan is to reallocate the aggregate ownership cost among the using railroads directly in proportion to the actual use.

Further Examination Required

The court looked with disfavor on the cursory consideration given the time-mileage plan by the commission. The court did not say that the time-mileage plan proposed was fair and practical and ought to be adopted. What it did say was that the plan deserved more than the consideration given it by the commission, for without more detailed findings the court could not exercise its judicial function.

The fact that straight per diem had been the basis of settlement for freight car use for over fifty years did not render it sacrosanct. The suggested time-mileage plan on its face seemed to the court to

have much to recommend it. The court was of the opinion that the commission erred in brushing aside a matter of such importance to so many vital links in the transportation system with little more than a "casual wave of the hand." *Boston & M. R. Co. et al. v. United States et al. 162 F Supp 289.*

Stock Issue for Control Purposes Disallowed

THE California commission approved only a portion of a highway common carrier's petition for authority to issue $50,000 par value of common stock. The carrier contemplated issuing $25,000 to its customers and $25,000 to present shareholders, the latter to maintain equality of control.

The commission approved the stock issue to customers. The business was in need of capital, which would enable the company to improve its financial position and increase its volume.

The California commission, however, emphasized that its action should not be taken as a finding or opinion that dividends would be paid or as an expression of the value of the stock.

The commission made it clear, however, that it had no power to authorize the issue of stock for control purposes or to capitalize estimated amounts for going concern, good will, potential values, or similarly named intangible items. Nor could it authorize an issue for the purpose of paying operative rights in excess of the amount (exclusive of any tax or annual charge) actually paid to the state or to a potential subdivision as the consideration for the grant of such rights. *Re Santa Cruz Motor Express, Inc. Decision No. 57181, Application No. 40211, August 19, 1958.*

Other Recent Rulings

Rooming House Telephone Rate. Telephone service for roomers in a rooming house should not be charged at the business rate, said the Wisconsin commission, observing that proper classification depends upon the basis of the location where the service is provided, the type and use of the directory listing, and the nature of the use made of the telephone service. *University Independent Housing Asso. v. Wisconsin Teleph. Co. 2-U-4933, August 8, 1958.*

TV Channel Allocation Scheme. The United States court of appeals held that the Federal Communications Commission, and not the courts, is the proper body to pass on the wisdom of a television channel allocation scheme provided its decision has an adequate legal and factual basis. *Wirl Television Co. v. United States et al. 253 F2d 863.*

Territorial Extension Refused. The Indiana commission dismissed an application to extend the territorial authority of a telephone company where a statute provided that no telephone company could be required to render service in any territory in which it did not then render, and did not propose to render, service, and the company came within the statutory prohibition. *Re Fitzgerald et al. No. 27282, July 25, 1958.*

Value of Service. The Louisiana com-

mission said that rates for telephone service should be commensurate with the value of the service rendered. *Re Southwestern States Teleph. Co. Docket 7143, Order No. 7573, July 22, 1958.*

Telephone Company Return. A return of 5.2 per cent on a small telephone company's net book value rate base was considered reasonable by the Wisconsin commission. *Re Door County Teleph. Co. 2-U-4973, June 12, 1958.*

Return on Book Value. Rates for a telephone company financed by REA loans were approved by the Wisconsin commission as requested, upon a showing that the rate of return would amount to only 3.25 per cent on a net book value rate base. *Re Greenwood Teleph. Co. 2-U-5003, July 28, 1958.*

Special Rate Recoverable. The United States court of claims held that a motor carrier was entitled to recover from the federal government transportation charges in accordance with a special rate where it had been understood that the carrier would be paid that rate when it moved heavy equipment in accordance with a special tariff free from any land-grant deductions, and expensive alteration of equipment had been necessary, and the government representatives, with full knowledge of the fact, had made the contract and would not have secured the transportation without agreeing to the special rate. *Commercial Carriers, Inc. v. United States, 161 F Supp 393.*

Discontinuance Denial Reversed. The Missouri supreme court reversed a commission order denying a railroad's application for authority to discontinue certain passenger trains where the evidence established that the losses sustained in operation were patently disproportionate to the public convenience and necessity. *Missouri ex rel. Chicago, R. I. & P. R. Co. v. Missouri Pub. Service Commission, 312 SW2d 791.*

Contract and Common Carriage. The Pennsylvania superior court pointed out that the commission, in a proceeding for a contract motor carrier permit, must consider the existing common carrier service available to a shipper who desires the services of a contract carrier, and must determine whether the interjection of a contract carrier in competition with satisfactory and adequate common carrier service would be detrimental to the public interest and to the inherent advantages of common carriage by motor vehicle. *Wiley (Wiley's Chester Auto Express) v. Pennsylvania Pub. Utility Commission, 142 A2d 763.*

Municipal Plant Return. The Wisconsin commission considered a return of 5.5 per cent on a municipal water plant's net book value rate base reasonable. *Re City of Mayville, 2-U-4981, May 22, 1958.*

Safety Rules Deviation. The California commission held that deviation from railroad safety rules should not be granted merely for economic reasons, but clear-cut proof that such deviation is the only solution to the problem is required. *Re Atchison, T. & S. F. R. Co. et al. Decision No. 56826, Application No. 39741, June 9, 1958.*

Street Railroad Discontinuance. The Connecticut commission authorized a street railway to discontinue freight service between certain points where the company was incurring a heavy loss, usage of the service had declined, the service constituted a source of annoyance to adja-

cent residents, adequate alternate public transportation facilities were available, and the public need consisted largely of the convenience of an individual shipper who desired the service primarily for the transportation of a commodity which could be transported by tank truck. *Re Connecticut Co. Docket No. 9644, July 2, 1958.*

Temporary Certificate. The Colorado commission granted a small bus company a temporary one-year certificate, commenting that it was reluctant to deprive the public of a needed service, or stifle private enterprise, but that the records showed that the previous certificate holder had operated at a substantial loss, and the limited capital of the applicant might jeopardize the safety of the operation. *Re Benov (Thornton Bus Line), Application No. 16304, Decision No. 50557, July 3, 1958.*

Abandonment Principles. The New Jersey commission pointed out that the principles guiding it in the determination of train discontinuance cases were the requirements of public convenience and necessity and the financial conditions under which the service was rendered. *Re Pennsylvania R. Co. Docket No. 10593, July 14, 1958.*

Revenue Approximation. The Pennsylvania commission, upon remand of a water rate proceeding because the court had disallowed an allowance of .12 per cent above the cost of capital, did not consider an amount, under the revised schedules, which approximated only .35 per cent of total allowable operating revenues as being unduly excessive but held that the revenues were reasonably close to the total allowable revenues and in accord with the court's statement that the result of the rate schedule adjustments could approximate the excess return by reason of the allowance above the cost of capital. *Pennsylvania Pub. Utility Commission et al. v. Riverton Consol. Water Co. C. 16537 et al. July 14, 1958.*

Carrier Interests Protected. The Colorado commission commented that the interest of local carriers who stay in an area and serve it in good times and bad should be protected unless some showing is made in a particular case that the best interest of the public in that area warrants some other action. *Re Johanson (Johanson & Carbis) Application Nos. 13169, 16428, Decision No. 50631, July 15, 1958.*

Partial Railroad Discontinuance. The New Jersey commission held that it had jurisdiction over curtailment and discontinuance of passenger ferry service by a railroad since curtailment or partial discontinuance of passenger rail service was a field outside the power vested in the Interstate Commerce Commission, and for the commission to disclaim jurisdiction would give the railroad the power to curtail and discontinue service at any time without regard to public convenience and necessity. *New Jersey v. New York C. R. Co. Docket No. 10815, July 18, 1958.*

Water Extension Rule. The New Jersey commission held that a provision in a water company's extension rule imposing a general and unqualified obligation on an applicant for an extension of water mains to make a deposit with the utility was unjust, unreasonable, and unlawful since the blanket fiat amounted to a usurpation of the commission's discretion. *Re Elizabethtown Water Co. Consolidated, Docket No. 10563, August 7, 1958.*

Rate Case Amortization. The New Jersey commission disallowed the amortization of a balance shown on a water company's books as "unamortized balance of previous rate case expense" in accordance with its policy of allowing, for rate-making purposes, the amortization of only the expenses of the current proceeding. *Re Laurel Springs Water Works Co. Docket No. 9155, July 23, 1958.*

Responsibility for Taxicab Operator. The District of Columbia municipal court of appeals held that a commission regulation, forbidding the owner or operator of a vehicle for hire to authorize any person to operate such vehicle unless such person possessed a valid character license, was directed only to owners and operators who permitted unlicensed persons to drive, so that a person who had an arrangement with a corporation to rent taxicabs or to provide drivers but did not himself operate the taxicabs and had no proprietary interest in the corporation or its vehicles could not properly be convicted under the statute. *Sellers v. District of Columbia, 143 A2d 96.*

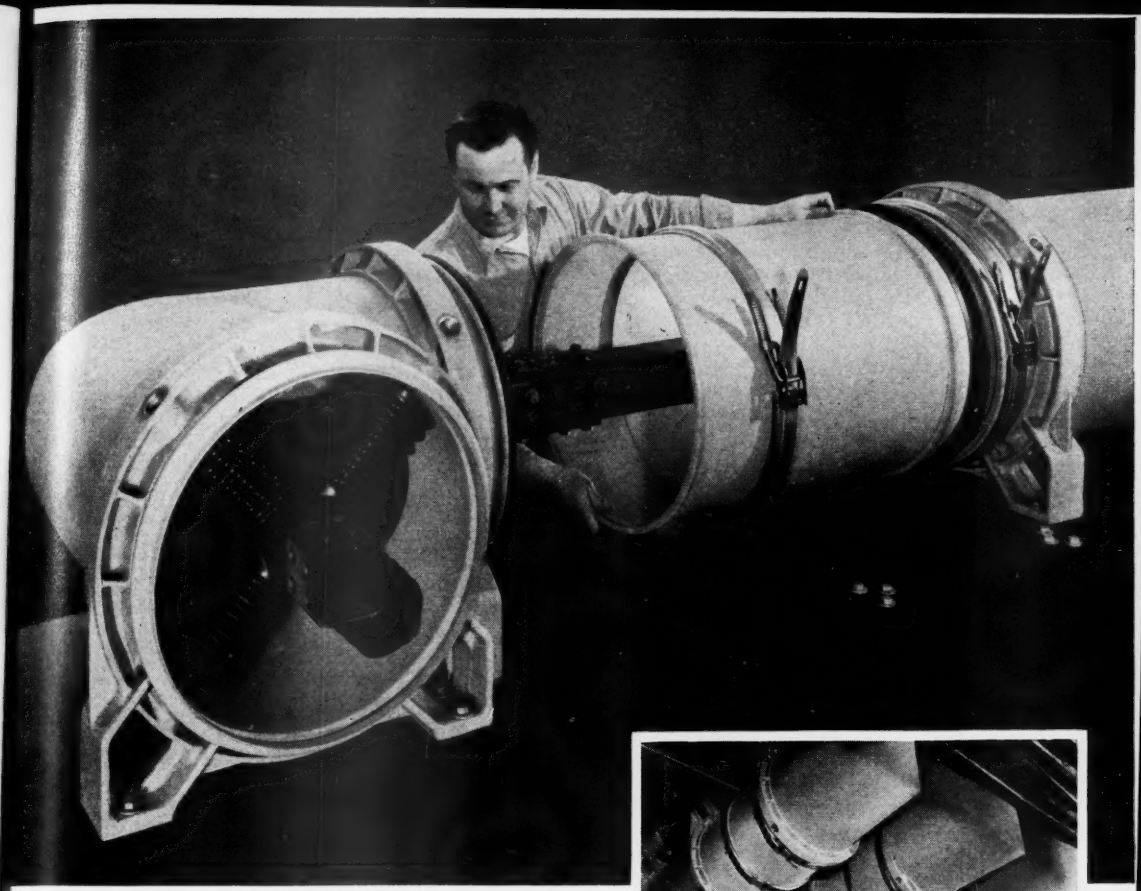
Public Purpose. The Illinois supreme court held that the fact that railroads would be lessees of a new consolidated station and its approaches neither neutralized nor destroyed the public purpose and public use of the Railroad Terminal Authority Act, which had for its primary object removal of blighted conditions caused by antiquated terminal areas, promotion of growth and development of a city, and relief of traffic congestion by extending streets through areas and by furnishing off-street parking. *People ex rel. Adamowski v. Chicago R. Terminal Authority, 151 NE2d 311.*

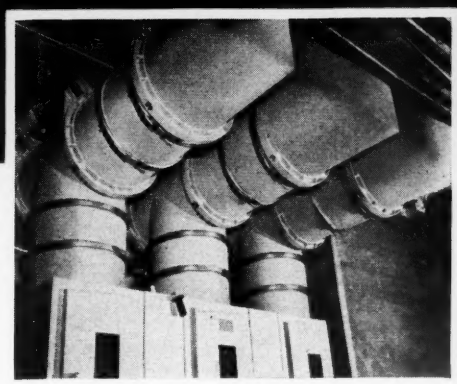
Rail versus Motor Fright. In granting applications by two motor carriers for authority to haul cement from a new plant, the New York commission, upon protest by a railroad, observed that the shipping public is entitled to both rail and motor carrier transportation and that the availability of rail service is not, in itself, sufficient to defeat a motor carrier application. *Re Concrete Delivery Co., Inc. et al. Cases MT-752, MT-2785, May 26, 1958.*

Intrastate Route. Whether a freight movement is interstate or intrastate depends upon the actual movement of the freight and not upon the subsequent movement of the empty vehicle, the Louisiana commission ruled in rejecting a contention that a freight haul over an intrastate route was an interstate operation and subject to interstate rates merely because the empty vehicle returned by an interstate route. *Louisiana Pub. Service Commission v. W. M. Chambers Truck Line, Inc. Order Nos. 7542, 7624, June 5, 1958.*

Rate Increase Approved. Increased rates for a small water company were approved by the Pennsylvania commission where they would produce but 2.22 per cent net earnings on a depreciated original cost rate base. *Portage Twp. Citizens Asso. v. Ben's Creek Water Co. Complaint Docket No. 16718, June 30, 1958.*

Operating Experience Needed. Although the New Mexico commission approved proposed rates of a newly certificated water company, effective upon the installation of meters for all customers, final determination of the reasonableness of the rates was reserved pending operating experience. *Re Independent Water Co. Case No. 515, August 8, 1958.*





Custom-built for specific requirements! Heat-treated cast aluminum alloy rings—welded to stationary tubular sections—replace ring gaskets. Porcelain insulators are in compression under normal loads and short circuits. Circular gaskets are fully trapped and self-seating.

or Reduced Installation nd Maintenance Costs...

ELTA-STAR Metal-Enclosed Isolated-Phase Buses

elta-Star Metal-Enclosed Isolated-Phase Buses go up ster, and at less cost, than conventional units. Require s time for cleaning, inspection, and maintenance.

our savings start at installation. Delta-Star pre-sembles 6- or 8-foot longitudinal sections and ships em in lengths as large as your facilities can handle. aips corners and tees with bus and insulators stalled. Reduces gasketing 50% by eliminating ongitudinal gaskets.

our savings continue year after year in inspection nd maintenance. You easily remove the telescoping aluminum covers for inspection. You then have a 2'6" space for cleaning and maintenance.

Specially-shaped neoprene gaskets keep out dust and moisture. Spring-loaded clamping assures air-tight seal. Large area ring gaskets permit liberal misalignment of ducts without reducing seal.

For your next installation, check the Delta-Star Isolated-Phase Buses. For full details, call our nearest district representative or write *Dept. 457, Delta-Star Electric Division, H. K. Porter Company, Inc., 2437 Fulton Street, Chicago 12, Ill. District offices in principal cities.*

H. K. PORTER COMPANY, INC.

DELTA-STAR ELECTRIC DIVISION

Connors Steel, Delta-Star Electric, Disston, Forge & Fittings, Leschen Wire Rope, Quaker Rubber, Refractories, Riverside-Alloy Metal, Vulcan-Kidd Steel, H. K. Porter Company (Canada) Ltd.

presenting figurework in a new dimension...

THE NEW *REMINGTON RAND* ELECTRIC ADDING MACHINE

TRADEMARK

Spanning the breadth of Business America, with its new dimension in advanced design features and functional beauty, comes *the new REMINGTON RAND Electric Adding Machine.*

The newly engineered "handspan" touch-method keyboard unites completely electrified and strategically placed feature keys with superior 10-key keyboard speed. Since all movement is within the operator's handspan, this new machine provides fast accurate computations.

You can buy the new REMINGTON RAND Electric Adding Machine for less than $2.50 a week after nominal down payment. For information contact your local Remington Rand Office or write for folder A1163, Room 2028, 315 Fourth Avenue, New York 10, New York.

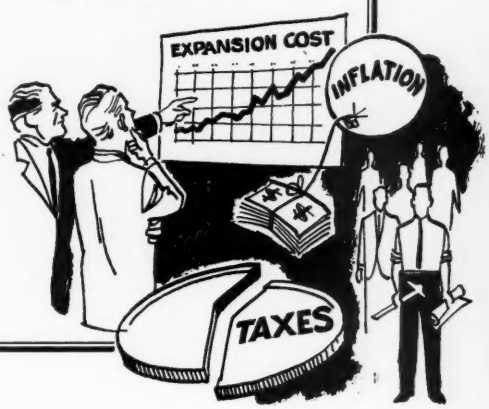
Remington Rand
Division of SPERRY RAND CORPORATION

—Industrial Progress—

Cutting Costs In Business Communications

By JOHN MAPPELBECK*

The Telephone Industry is making intensive studies of American business, from raw resources to retailing, to enlarge its sales volume as well as reduce costs. Two major eliminations —switchboard service and paperwork. These new methods also increase telephone traffic.



T WOULD BE HARD to find y an American business, the est or the smallest, that is not cost-scious, especially since the recent lown.

Countless ways are being found to uce expenses, ranging from closer trol of processes, purchasing and sonnel, to automation and the re-enation of elderly managements.

One field of cost reduction appears ave a considerable margin for such uction—communications.

There are wastes to be eliminated equipment and methods that have outgrown in the postwar expan- of our economy. And there is sales volume to be gained.

tion.

Recent changes in hotel switch-rd service, such as direct dialing guests, have shown the possibili- and the Bell system is now carry- on some intensive "industry dies" of American business com-nications requirements, beginning th ore and oil coming out of the ound, to the final sale of merchandise etail stores.

The hotel studies were described in cent "Fortnightly" article.[1] After years of teamwork by hotel man-ments in Boston and New York, h Bell companies, switchboard service was replaced by direct dialing for guests, from their rooms, and by automatic accounting for their toll messages. Switchboard personnel was reduced, as guests made their own local connections, and the convenience of direct dialing increased volume for the hotels and the telephone companies.

Similar studies are now being carried by Bell companies under AT&T supervision in about 30 major industries—mining, oil, pipelines, trucking and other transportation, power production, manufacturing, wholesale and retail trade, brokerage, insurance, mail order houses, hospitals.

There are some 35 study teams at work in different areas, regional Bell companies investigating the lines of business prominent in their territories. The general method is to work with one or more large concerns, as was done with the hotels, which belong to two chains. Ample time is allowed for the work. The concerns under investigation are cooperating, and the final results will be made available to more than 400,000 other concerns in these major lines.

The objectives are to find out how communications for these businesses can be expedited, their costs reduced, and their production and sales volumes increased. The studies are being made with a long-range perspective on the future—how can communications be improved today, and what will be needed tomorrow?

The Bell system now has more than 400 different types of service to sell, some of which require the development of new markets. American business is constantly changing. The patterns of today differ dramatically from those of a dozen years ago, and those of tomorrow will differ even more. Growth and shifts of population, improvements in production methods, new channels of distribution are basic factors. Over it all, is the transforming force of competition.

Baltimore Case History

The next Bell industry study far enough advanced for conclusions is one made in Baltimore department stores, to find out how their telephone service might be improved. In this particular business the objectives seem to be greater sales volume.

Early in 1956, Baltimore merchants, through their association, working with the Chesapeake & Potomac Telephone Company of that city, conducted interviews with women in telephone homes, using a standard questionnaire designed by National Analysts, Inc., of Philadelphia.

Department stores have many costs that are peculiarly their own. To an outside executive it might appear as though the big store had systematically spoiled its customers, shouldering

(*Continued on page* 26)

*Professional writer, residence in Washington, D. C.

[1] "Lower Costs for PBX, More Traffic Revenue." PUBLIC UTILITIES FORTNIGHTLY, June 19, 1958.

expenses created by charge accounts, return and exchange privileges, and other services imposed by competition. Whether the feeling has been cultivated or not, women firmly believe that the cash customer in a department store gets indifferent treatment, while the lady who can flash a charge stencil is bowed down to. It is true that transit companies, trying to sell bus transportation, have found that the lady who comes in her car has her parking paid, while the woman who comes on a bus pays her own fare. The transit men have been putting in a strong word for their shopping passengers, and some stores now refund bus fare with purchases.

What the Baltimore women had to say about big store telephone service shows that there is room for improvement, and increased sales.

They had complaints of bus lines, and of switchboard operators who were not saleswomen, or familiar with merchandise advertised that day.

They were irritated by store advertising that stated "No telephone orders!" Why discriminate between shopping and telephone customers? "Stupid!" was the women's ve

They wanted to know why th stores did not include telephone bers as part of their sales advert The way the telephone people l at this, there would be a sales a tage in even going a step furthe including extension numbers would enable a phone shopper t the department carrying mercha in which she was interested.

The big stores have been in telephone trade, but in a weak-he way, without doing much to ma convenient. In newspaper spreads are always featuring new merc dise, or holding special sales of s ard goods. Special offerings are by showing merchandise on televi and by radio, mail inserts and logues. But the difficulties of telep shopping are so great that many w en say, "What's the use?"

Baltimore women disclosed a of reasoning about switchboard ing that is undoubtedly to be fo throughout the country. When a store stages a bargain sale, it ma that it is actually losing money on particular run of merchandise. main objective, however, is to in shoppers to come to the store and over other merchandise. Telep orders are therefore discouraged making them difficult.

"A woman's reason!" the merch dise managers may say, who h spent weeks and ransacked the ma for bargains. But there it is—th the way the ladies figure it out themselves.

Baltimore women have defi ideas about switchboard buying a might be.

One woman in three intervie is handicapped in store shopp Housewives must find sitters for c dren whenever they go to the st and this is in addition to the cos purchases, if sitters can be found. fice women cannot shop in the time, lacking time, and being n from the stores, and many housew today are also job holders.

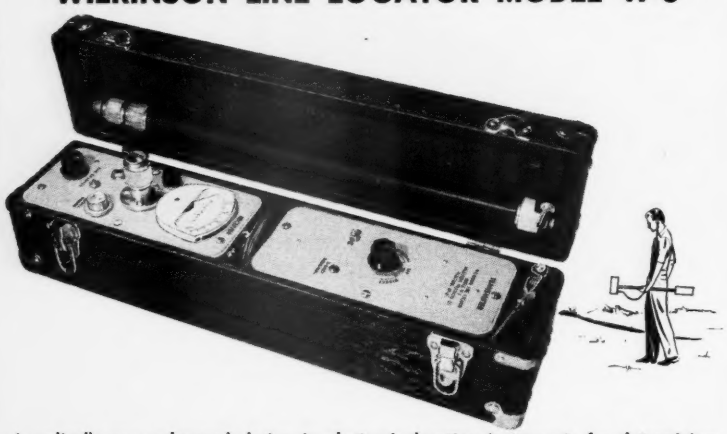
Switchboards open for shopp in the evening would be a great c venience for many women. E morning hours were also sugges and even a few Sunday hours. T phone purchasing is mostly stimul by advertising. Women read ab articles that they could order by ph with confidence. The buying impul strong then, but might weaken if p poned until the store could be visi

(*Continued on page 23*)

MINIATURIZED PRECISION

The new

WILKINSON LINE LOCATOR MODEL W-3



A radically new, advanced design in electronic locating instruments for determining the precise location and depth of all sub surface installations—pipes, cables, valves, boxes, stubs, transmission and distribution lines.

True miniaturization of the new Model W-3 is achieved by the use of transistors, sub miniature components, etched circuitry and our unique and original antennas.

This new model Wilkinson Line Locator is contained in molded glass fiber instrument cases which provide ultimate protection for heavy field use. The dimensions of this highly effective locating instrument are only one fourth that of conventional locating devices and the overall weight, assembled, has been reduced to four pounds.

The transistors have an extremely long use life and most likely will never require replacing. The mercury cells and high current miniature batteries are leak proof, they will last at least ten times as long as those employed in the old type locators. The anodized aluminum connect-handle telescopes to 17 inches. A single ear transistor head set is supplied and the entire instrument comes to you in a substantial carrying case.

This thoroughly modern locating instrument is effective on the most difficult jobs—sturdy, and entirely shock resistant. The model W-3 Wilkinson Line Locator is designed and constructed so that the usual periodic servicing is practically eliminated. It's light weight and small, compact size provides the operator with the most convenient and flexible locator possible. It's as handy as a flash light.

WILKINSON PRODUCTS COMPANY

3987 Chevy Chase Drive, Pasadena 3, California **Tel.: SYlvan 0-4314**

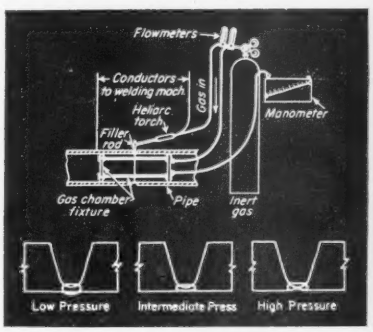
KELLOGG'S K-WELD® TECHNIQUE KEEPS PACE

ing shop fabrication, *ninety* elds . . . Kellogg's inert gas ded technique of manual arc ng . . . were made by Kellogg on Type 316 stainless main steam g for Philadelphia Electric Com-'s Eddystone Station, Unit No. 1. were heat treated after welding, 00-1950 F.

the photo above, the K-Weld bead already has been deposited ng 1/16 in. filler wire (16 Cr.-8 Mo.). The operator is making econd pass by conventional man-rc welding. This and the remain-passes are made using covered rodes (B&W 16-8-2) for this extremely heavy-walled section.

Inspections by liquid penetrant and radiography . . . *four for each weld* . . . were as follows: (1) After the first ⅝ in.; (2) Halfway between ⅝ in. and outer surface, provided the distance was greater than ¾ in.; (3) On completion of weld; (4) After solution heat treatment. These inspections show the extent to which Kellogg goes, beyond code requirements in this case, to control quality of fabrication.

The M. W. Kellogg Company welcomes inquiries on its complete service to the power piping industry from consulting engineers, engineers of power generating companies, and manufacturers of boilers, turbines, and allied equipment.



K-Weld root bead is deposited while pipe interior is under controlled inert gas pressure in specially designed portable gas chamber fixture. Diagram shows details of fixture, and how interior weld surface can be controlled by varying pressure.

Fabricated Products Sales Division

M. W. KELLOGG COMPANY, 711 THIRD AVENUE, NEW YORK 17, N. Y.

A SUBSIDIARY OF PULLMAN INCORPORATED

adian Kellogg Co., Ltd., Toronto • Kellogg International Corp., London • Kellogg Pan American Corp., New York te Kellogg, Paris • Companhia Kellogg Brasileira, Rio de Janeiro • Compania Kellogg de Venezuela, Caracas

POWER PIPING—THE VITAL LINK

Morning hours would close sales of merchandise advertised in the evening newspapers. Sunday is a day for reading, women are always scanning the store ads, sales could be closed by a phone call. Or so the Baltimore women think.

Some Women Angles

Another interesting angle in this survey was asking women what they would and would not buy over the phone.

There is a high confidence in goods that do not involve questions of size, style, color, such as bed linens, women's hosiery and underwear, men's hosiery and underwear, children's underwear, house dresses, stationery, sewing materials, kitchen needs, toys, games.

Women said they would have less confidence in phone buying of small appliances, table linens, bras, women's and children's outerwear, women's neckwear, curtains, cosmetics, men's dress shirts and sport shirts.

They would have no confidence at all in buying, sight unseen, even with oversight by sales people they know, such personal things as dresses, shoes, coats, skirts, handbags, costume jewelry, china, silver and glass. No matter how attractively described in advertising, these are purchases that involve taste, style, fit, color, value, decor. Women buy them with thoughts of what others may think, especially other women. They want to look, compare, talk it over, sleep on it, decide later.

About the last thing a woman would buy over the phone is a hat!

But some merchants report that, where phone shopping is encouraged, the kinds of merchandise bought that way is not so often exchanged or returned.

It has also been found that customers with charge accounts are good telephone shoppers. Eight in ten charge customers are frequent switchboard buyers, and such orders come largely from higher income families.

Contrary to some trade opinion, switchboard sales do not reduce store visits. By charge account records, it has been found that the largest volume of phone business comes from customers who also visit the stores.

Store traffic is highly regarded by management as a yardstick for measuring results of advertising and merchandising events. But it may not be as reliable an index as is generally supposed. One or two shopping trips a month is the average for 38% of the Baltimore women questioned; a weekly trip is made by 22%; quite a number of women visit the stores only once a year—5% so reporting.

Lookers are not equivalent to buyers. Three out of five women shopping in the store make purchases. The other two are examining merchandise, comparing values in different stores, postponing decisions to another day.

Women like to visit stores, but say that shopping is tiring. The kind of merchandise they shop for affects their decisions. A small kitchen appliance may be bought out of hand because some other woman has found it satisfactory, or the store will change it. But a fur coat is a purchase, an investment, and will be discussed by the family for bought after months or years of ing.

One of the unsettled arguments all business is, "Does institutional vertising justify itself by results money spent to build company tation wasted, should it be aimed creating sales?"

Prestige does play an important part in the big store and it is created partly by policy, and time, and by advertising and store events. store in a city will be the stitution that has served Mother Grandmother, is trusted for its and merchandise, has sales people know the First Families. A popular price store can be no less an stitution, holding its following economy.

Big Stores Have Outgrown Switchboard

This Baltimore survey produced much information of value to chants, merchandise men, advertising managers, sales people—and phone companies.

One fact stands out—that the store has outgrown the switchboard. The old manual way of bringing ple together, "Number, please?" "Here is your party," is becoming expensive for almost any kind of ness, even the toll business of telephone companies.

In the hotel survey it was found

WE'RE GROWING!

TO KEEP PACE WITH THE CONTINUING DEMAND FOR ADEQUATE TELEPHONE COMMUNICATIONS IN EASTERN NORTH CAROLINA, WE EXPENDED MORE THAN $17,000,000 DURING 1957 FOR EXPANSION AND IMPROVEMENTS. IT WAS THE LARGEST SINGLE YEAR'S CONSTRUCTION PROGRAM IN THE HISTORY OF THE COMPANY.

111 Exchanges
2,200 Employees
4,000 Investors
155,000 Telephones

TELEPHONE AND TELEGRAPH COMPANY

nternal connecting switchboard e could be eliminated, letting s dial each other direct thereby car of a large part of the . It was also found that direct g, with its ease in getting con- ns, stimulated traffic.

eresting installations of direct g are being made for large busi- concerns. One large corporation 6,000 extensions to individuals headquarters offices, recently a DID system, for "direct in- dialing," then the third of its n the United States—AT&T has New York City, and an aircraft any another in Seattle. For di- connections with a given person organization, a special exchange er is dialed, and then his exten- If the extension number is not n, it can be obtained by dialing tchboard. The size of inter-office factory communications these is indicated in the fact that tele- crews are permanently at work any large plants, changing con- ons.

the department store a system of ind would facilitate switchboard bing, by bringing the customer ect contact with the department ing the merchandise she wanted, a sales person able to give full nation. Sixty-seven percent of Baltimore women said they l like it. They also said that would not dislike associated g, such as the suggestion of pil- lips or other bed clothes to the mer buying sheets. If the sales n called attention to a bargain, would not resent it. But it would o be a real "buy." Women resent ure selling—the pitchman is get- himself onto blacklists every- e.

sociated selling and special calls by sales people the customer has with before would be favorably ded- a chance for good sales e to fatten their order books.

There is definitely a place in department stores for a record service, like that over which telephone subscribers get weather reports, and time. By dialing a number, information could be obtained about attractive merchandise offerings for the day, or even the hour. Disks could be changed as often as necessary. Record service would make it possible to clear off slow-moving goods, and open up opportunities for associated selling. Baltimore women said they would like recorded information.

Small Retailers Studied, Too!

These Bell studies include small retail businesses, the grocers, druggists, hardware dealers, florists, laundrymen and other merchants located around every neighborhood shopping center. Dozens of such centers are now found in every city. Also included are the downtown specialty shops, which like the neighborhood stores, supplement the department stores and supermarkets.

Each of these trades have problems in common, and cost-cutting in their communications adds to their ability to compete. In the aggregate, each is Big Business. The florists, for example, are mostly local merchants, but organized in a "Flowers by wire" promotion, they do a national business that has led the Bell system to carry on a "Flowers by telephone" campaign,for its share of the wire traffic. Not long ago it was estimated that toll revenue from that source could mean $6 million a year.

The small retailer has three separate items of cost that can probably be reduced by improved telephone service, tailored to his requirements. First, his operating expenses. Second, his time. Third, his energy.

Take the neighborhood grocer for an illustration. His telephone service enters into his supply as well as his selling. Bell studies start with his wholesalers. Traditionally, he has gone to market before his store opens, laying in the day's fruits and vegetables in the produce district, and perhaps saving money on his dry groceries at a cash-and-carry jobbing house. Better information can undoubtedly reduce some costs all along the line.

For the supermarket, direct dialing has already begun to bring in new methods and economies.

Until the war, telephone orders and home deliveries were common in food retailing. As a war measure, delivery

(*Continued on page* 30)

Greetings to

USITA

As you convene in Chicago, we extend our best wishes for a most profitable meeting.

We know how involved such gatherings become. It is your convention—not ours—and there are many important sessions scheduled.

Mr. James Lobred of our organization will have headquarters in the Blackstone Hotel, just across the street from the Conrad Hilton. You are cordially invited to drop by, whether your interest is swapping gossip, checking rumors, or something more serious.

We look forward to seeing old friends, and we hope to make new ones.

ALLEN KANDER AND COMPANY

Negotiators for Purchase and Sale of Independent Telephone Companies

WASHINGTON—1625 Eye St. NW
NAtional 8-1990

NEW YORK—60 East 42nd St.
MUrray Hill 7-4242

CHICAGO—35 East Wacker Dr.
RAndolph 6-6760

DENVER—1700 Broadway
AComa 2-3623

service was suspended. It has never fully come back. Grocery prices have risen to such levels that the housewife with a car drives twice a week to market and loads up, while the woman without a car trundles a shopping cart to the bus, or her home.

While grocery products are now universally packaged, for self-serve as well as cleanliness, the cost of unpacking them, displaying on shelves, and payment at the check-out counter is a heavy item.

So, a new type of supermarket has appeared. It has no shelves or displays, no shopping carts, no shoppers, no stock clerks unpacking shipping containers.

It is a warehouse. The housewife telephones her weekly order instead of shopping in her car, for the standard grocery products that vary little in price, involve no factors of quality, are all packaged. Her three-day or weekly order pays for home delivery. The warehouse market fills it out of shipping cartons, cuts out handling costs. The housewife saves time and energy.

New! Free!
BOOK of FACTS

Tells how to "Chip Dollars" from your overhead! Detailed cutaway drawings of Fitchburg Chipper in color. Specifications, diagrams, charts, plus money-saving reports and experiences of others.

Mail coupon for your copy today!

FITCHBURG ENGINEERING CORPORATION
Fitchburg, Mass., Dept. PUF-108

*Name*_____
*Company*_____
*Address*_____
*City*_____ *State*_____

Miscellaneous Studies

Other conclusions arrived at in Mother Bell's studies are these:

Long distance trucking companies have to keep their fleets loaded and moving. Like the railroads, they have dispatchers to keep track of every vehicle and shipment. The railroad has its own communication system, with station agents reporting to dispatchers. But the trucking company depends upon drivers' phone calls, from points along their routes.

Flexibility is one of the advantages of truck freight service, and dispatchers endeavor to keep close track of vehicles at all times, because shipments have to be picked up at short notice. What the trucking business needs is some telephone system by which drivers can report automatically as they pass points where they can be told to make pick-ups a little ahead.

Hospital beds have been found to have communication problems, and opportunities for making better use of their facilities, often over-burdened. There are more than a million and a half hospital beds in the United States. Only a small percentage have bedside telephones, mostly in private rooms.

Medical opinion is that the ability to keep in touch with their families, friends and employment is of great value in patients' recovery. Also, quick recovery after operations or other treatment is nowadays routine procedure in hospitals.

As hospital costs rise, and there is more pressure on their facilities, more patients are put in multi-bed rooms. Hospitals need bedside phones for these rooms which will give unobtrusive or silent signals; convey low voice level conversations; and be within patients' means.

One of the bank communication problems turned up in these studies is the distribution to tellers of check numbers on which payment has been stopped by depositors. In the course of a day's business there may be many of these. Payment is stopped on account of errors, wrong amounts having been written, or the check having got into wrong hands. The amounts are often large. Stoppage is requested to prevent fraud, or crime. Sometimes the police are involved.

The circulation of checks is vast, and tellers have to be notified promptly, and keep numbers before them. Often, it becomes a race between the tellers and a crook.

In a single bank this information does not raise a problem, the nu of tellers being small, and the p of "Stops" direct. But in a b banking system, with hundre tellers, in many scattered loca communications must be organi

One of the Bell study tea working out an ingenious tele set-up for branch banks, base voice communications. Another veloping a system using that horse of telephony, the teletype

Internal Communication

So far, the problems and pos ties considered in this article been those of switchboards. The diversified, not yet very thoro explored, interesting—often dra Basically, they generally involve tomers, guests and business pers speaking through a switchboar which they are put in touch with other. Telephone practice has steadily trended toward letting customer make the connections his fingers instead of his voice, nate the switchboard and its o tors. So many devices for doing are coming out of the laborat that a tremendous research and ing job looms up.

There is another field of comm cations, the inside communicatio business itself, not so dramatic a rect dialing from your hotel roo color phones, or bedroom sets growing at four times the rate o better publicized changes in telep

Since war's end, business ha only been expanding in capacity decentralizing to get closer to ma or materials, or to offset rising t portation costs. Business is als panding through mergers, purc of other companies, diversificati products, etc.

The communications problems be pictured in a synthetic case: A salesman in San Francisco

NORTH STATE TELEPHONE COMPANY

Supplying

High Point, Thomasville a Randleman

with

Local and Long distance Telephone Service

order for products made by his pany in its Oakland factory. It is ned i at the office, the only one com any has. The credit dep art- nt O K's it, the factory gets the er to fill it, and because this is a cust mer, on whom the salesman been working for months, against petit on, the boss gives him a raise r at least a good cigar.

That was yesterday.

Today this company is one in a ger of maybe a dozen, in its own other product lines. The head- rters ompany is in Chicago. There facto ies and offices in many cities, st to coast.

The salesman takes an identical er, but it has become a very ferent transaction. It must be cked, written up, and transmitted the home office and to the plants t will fill it.

The paper work is much greater, oming a greater burden from year year. The mails take time. Tele- ning involves executive decisions well as tolls. The cost in typing, scribing, office work, are heavy.

There is one cost item perhaps most expensive of all—the margin for error. A mistake in copying quantities, grades, prices, delivery dates, can lead to customer complaints and adjustments, and probably to loss of further business.

For such situations, telephony provides a teletype set-up that eliminates copying, mails, toll calls, and reduces the margin for error to a very small percentage.

The approved order is written up in quintuplicate by a typist on a special typing machine, which makes a master tape record of details on that particular order. It also inserts basic information about the customer, from a master tape. Information for invoicing, such as prices, discounts, is also inserted. Where products are subject to Federal and state laws, as with liquors, adjustments are made.

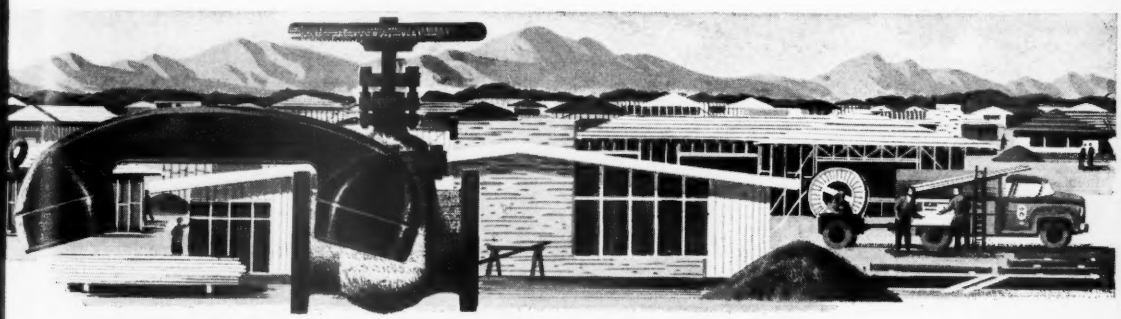
On this kind of order the margin for error is reduced to as little as 5% in the variables. Everything possible is taken from standard records. After the order is taped, there is nothing to be copied.

This taped order then goes out over a leased teletype network, which for a large concern will cover several thousand miles. Where the network does not extend to all points, as may be the case in isolated areas, the information is teletyped to the nearest telegraph office, and wired from there, minimizing telegraph charges.

At the home office the information in this order is transferred to punch cards which are automatically sorted so as to furnish statistical data for management. These data may be used in production, purchasing and inventory controls. Information for planning, or change in plans, can be obtained very quickly, through purely mechanical processes. It is only necessary to determine what data are wanted.

Executive messages are transmitted over the system, eliminating toll calls, and economizing time and energy for men in management, and being flexible, it is adaptable to other routine work, such as payrolls. Basic data for employees' wages are kept at head-

(*Continued on page 32*)



Another year of **GROWTH**
...in the Golden State

Percentage of population increase in our service areas was greater than fast growing Southern California last year. This continuing growth helped us set new records in gross revenues, and higher net income in 1957. Our Annual Report for 1957 reports the year's accomplishments.

Write for a copy without obligation

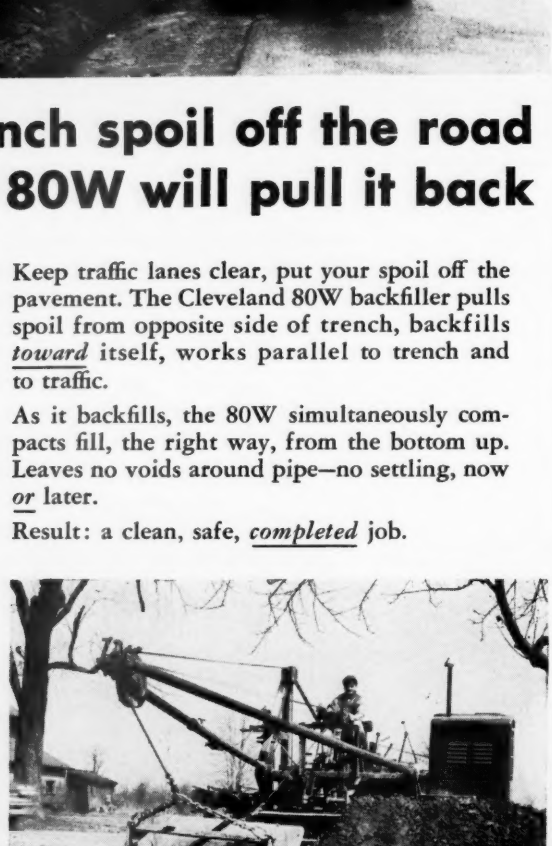
California *Water & Telephone Company*
300 MONTGOMERY STREET • SAN FRANCISCO, CALIFORNIA

Put trench spoil off the road —the 80W will pull it back

Keep traffic lanes clear, put your spoil off the pavement. The Cleveland 80W backfiller pulls spoil from opposite side of trench, backfills *toward* itself, works parallel to trench and to traffic.

As it backfills, the 80W simultaneously compacts fill, the right way, from the bottom up. Leaves no voids around pipe—no settling, now *or* later.

Result: a clean, safe, *completed* job.



The 80W backfills *away from* itself, too. Stays off lawns, sidewalks and completed work.

Fits *all* job conditions.

The CLEVELAND TRENCHER Co.

20100 ST. CLAIR AVE. • CLEVELAND 17, OHIO

Good Everywhere ®

quarters, compiled with variables overtime, figured for deductions, transmitted to points where the ch are made out. As a business gr the system can grow with it wit an increase in administrative per nel.

Private Right-of-Way Systems

Finally, such a set-up involves Bell and independent circuits, and instance of the interdependency our total telephone facilities.

Not widely known, even am telephone people, is a large numbe privately owned telephone systems erated by pipeline, transportat power and other companies. Th were often built years ago, when t phone companies were unable to tend their lines into isolated area the prospective traffic was too t and they were too busy financing building plant in populated areas.

So, these "right-of-way" syste were built by the companies needed them, and have grown. T are growing today, with micro-w and all. Their operations have bec more complex.

A pipeline company originally ried a single product, crude oil or oline, to a few customers. Toda carries "slugs" of petroleum prod to many customers, and its commu cation problems have increased.

Telephone salesmen point out them advantages in connecting w utility communications networks, the right-of-way people are proud their systems. They recall the p when telephone facilities were not tainable. They make a dictinction tween utility ownership and t "customer ownership."

To anybody on the fence, it m appear that pride was stronger t pocketbook.

But so it is, an ingenious bit rationalization.

Out of the telephone laborator have come, and are steadily com new devices by which business nearly all kinds can reduce its c munication costs.

But business has to be shown h The telephone people are find out how by these industry studies.

It is another angle in the gen sales promotion that has so lately c into the telephone industry.

echanized Oracle Gathers Facts On Bell System Communications

MECHANIZED "oracle" may Bell Telephone Laboratories dict the desires of future tele- ne customers.

he oracle is "Sibyl," a computer- machine and laboratory which simulate a variety of future com- ication devices and systems and mit them to be tested without the ense of building special equip- t for one-time use. It also will vide objective data on how tele- ne users would respond to a new ice.

ibyl takes its name from the nen of ancient Greece who were posedly inspired by the god Apollo ee the future. Bell Laboratories ineers and psychologists hope to dict from data collected by Sibyl ther a new facility will be useful attractive from the customer's wpoint.

ibyl will help sample those views. ypical test with Sibyl might work way: a push button telephone ld be placed in one of the offices the laboratories and while the de- e might look like the real thing it ld have no special instrumenta- within the shell.

nstead, the test instrument would inked to Sibyl. When the user op- ed the instrument, Sibyl would form the functions of the special tching system such a phone would uire. The push-button informa- would be translated into conven- al dial pulses and be relayed to an rating telephone exchange.

The intervention of Sibyl would inconvenience the user. While serving the privacy of the tele- one conversations, Sibyl would col- information on how the call was ced— such as the date, time, orig- tor, speed of operation, errors, whether the line was busy or the call completed.

Comparing the information on push-button operation with that from a group using rotary dials would provide a reliable conclusion as to the operational value of the new equipment. The data would also answer questions such as whether certain people are error-prone.

To do all of this, Sibyl relies on three co-ordinated sections. The main machine is similar to a computer and can be programmed to simulate the functions of a proposed service under realistic conditions. Another section includes read-out equipment of conventional design. The third element is an operator console.

The console allows a human operator to be used as an element of simulation. For instance, in a test of "voice dialing" — giving telephone numbers orally to mechanical equipment—a silent operator would listen to the instructions and would do the actual dialing. The user would be "voice dialing" so far as he knew.

The console also displays coded numbers as it collects information; from these numbers the operator can supervise what goes on in the machine.

Bell Laboratories engineers hope Sibyl eventually will provide a better understanding of the relationship between machines and people who use them and gradually create a fund of information which will carry over to other projects and reduce the necessity for extensive experimental work on new systems.

Sibyl is the product of studies by the Laboratories' Human Factors Engineering Group. The group includes Dr. J. E. Karlin, a psychologist, H. D. Irvin and R. R. Riesz.

A.T.&T. Reported to Be Building Industry's Largest Customer

AMERICAN Telephone & Telegraph Company, which spent 215 million dollars on construction in 1957, has been named the building industry's best customer.

Next in order were Ford, Western Electric, Kaiser Aluminum and General Motors.

The 100 biggest builders, according to *Architectural Forum*, accounted for 15 per cent ($1,800,000,000) of total U. S. spending for industrial-commercial construction last year.

On the 100-list are 71 manufacturing firms, 13 utilities, seven merchandisers, four insurance companies, three transportation companies and two banks. Among the 16 industrial categories, transportation equipment, electrical machinery and primary metals led the way.

Companies which broke down expenditures into type of buildings reported that more than 50 per cent of their outlays went into factories. Office buildings accounted for roughly 13 per cent of the total.

Communication Problems During Manned Space Flight to Be Discussed at Pittsburgh Meeting

IF AND WHEN man travels into outer space, how will he communicate with the earth and his fellow space travellers? This, termed "the $64 billion question" by Dr. John R. Pierce of the Bell Telephone Laboratories, will be the topic of discussion by a special six-member panel on October 29th. The panel discussion will be a highlight of the Fall General Meeting of the American Institute of

(*Continued on page* 34)

Greetings
to
Members and Guests
Attending
the
U. S. I. T. A.
Convention
•
TELEPHONE SERVICES, Inc.
Lima, Ohio

How to CONTROL and ALARM the TOWER LIGHTS of UNATTENDED Microwave and Communication Stations

PHOTO ELECTRIC PANEL
Automatically turns Tower Lights ON and OFF in accordance with FCC regulations
FLASHER PANEL - Automatically Flashes Beacon Lamps — with balanced load provisions.
ALARM PANEL - Automatically provides signals indicating failure of any lamp, power or control.

Model LC 201
TOWER LIGHTING CONTROL UNIT
(for Two Light Levels)
Model LC 101 (for Single Light Level)
Model LC 301 (for Three Light Levels)
Models also available with separate Alarm Signal for each Beacon Lamp.

Write for descriptive Bulletins

HUGHEY & PHILLIPS, INC.
Manufacturers of
300 MM Beacons, Obstruction Lights, Photo-Electric Controls, Beacon Flashers, Special Junction Boxes, Microwave Tower Light Control & Alarm Systems, Remote Lamp Failure Indicator Systems, and Complete Kits for: Tower Lighting, Sleet Melter Power & Control.
3200 NORTH SAN FERNANDO BLVD.
BURBANK, CALIF.

Electrical Engineers to be held October 26-31 at the Penn-Sheraton Hotel, Pittsburgh, Pa.

Participating will be Dr. Robert M. Fano of the Massachusetts Institute of Technology, Col. James H. Ritter of the Air Research and Development Command, Dr. R. L. Shuey of the General Electric Company, Dr. Joseph H. Vogelman of the Rome (N. Y.) Air Development Center and Dr. Pierce. Dr. George C. Sziklai of the Westinghouse Electric Corporation will be chairman.

According to Dr. Sziklai the panel will cover "the human aspects of communication as well as telemetry, the problems of power requirements and the basic reasons for work carried on currently." Dr. Vogelman will do some "crystal gazing" about when manned space flight will be possible.

Cuban Phone Expansion to Cost Over $60,000,000 by 1960

THE Cuban Telephone Company, Havana, a subsidiary of International Telephone & Telegraph Corporation, expects to complete the installation of some 70,000 new phones in Cuba in the next couple of years to fill the growing demand for service.

The program, estimated to cost upwards of $60,000,000, may be expanded beyond 1960 or 1961 if demand continues at present, according to the company, which recently announced a revised rate structure and the introduction of a new "measured service" to augment the old unlimited service.

For several years Cubans had been clamoring for more telephones and requests for service piled up. Applications for rate increases, however, met strong opposition and were not forthcoming until mid-1957.

Under revisions, just completed, old subscribers have the option of keeping their unlimited phone service —at slightly higher cost—or changing over to the new measured service. Local pay phone rates also went up, from 5 to 10 cents.

The revised concession granted by the Cuban Government calls for the installation of 61,000 new telephones —the company plans 70,000—and the re-installation of 40,000, which is the estimated number of cancellations expected and an expenditure of $61 million—the company plans $66 million—by the end of 1960.

Over $50 million of the expansion program will be spent in Cuba, according to General Edmond H. Leavy, board chairman of the company.

New Atlantic Phone Cable Route Being Charted

A BRITISH post office cable ship is surveying a route for a new submarine telephone cable between Canada and Britain.

This third telephone cable under the Atlantic is to be completed in 1961. The ocean section will run from Oban, Scotland, to White Bay, Newfoundland.

The first voice circuits under the Atlantic were completed in 1956. A second voice cable, a U. S.-European project, is scheduled to start service in 1959.

The third telephone cable has been dubbed Cantat, for Canadian and Transatlantic, and will be the first laid primarily to provide voice circuits between Canada and the British Isles.

The Canadian Overseas Telecommunications Corp. and Cable and Wireless Ltd. of Britain are 50-50 partners in the 25 million dollar project. The companies agree[d] 1957 to finance, provide and ma[in]tain the cable.

The British Post Office is doing the cable-laying job.

Cantat is to provide 60 voice circuits, each interchangeable with telegraph circuits.

Cable Network to Circle World

THE BRITISH Commonwealth Conference agreed recently in principle to build a worldwide system of telephone cables to link Commonwealth countries.

The proposal was made at a recent meeting in Montreal by Canada's Minister of Finance, Donald Fleming, chairman of the Commonwealth Economic Conference. It was approved by a majority of the eight countries represented.

The network will be built in the next ten years at an anticipated cost of $250,000,000. It is intended to be a profit-making venture.

In effect, it will be a globe-girdling extension of an existing cable and a new one to be laid by 1961 between Britain and Canada. Plans call for it to run from Canada to Hong Kong, New Zealand; Australia; Chittagong, East Pakistan; Colombo, Ceylon; Bombay, India; Karachi, West Pakistan, and around the coast of Africa to England.

Britain has agreed to pay much of the cost.

The cable system will use repeaters to ensure 100 per cent reception and will provide telephone, telex, cable and photo-telegram facilities.

Radio telephone already spans the world but is subject to ionospheric disturbances.

The first new stage will likely be British Columbia and Australia.

(*Continued on page* 36)

LEE
TELEPHONE
COMPANY

"Through Service We Grow"

MARTINSVILLE, VIRGINIA

Capital City
TELEPHONE CO.
JEFFERSON CITY, MISSOURI

wish we had more personnel
time to prepare this study
a new power plant and site.

Your regular staff is overloaded now.
Call in the specialists and let them
carry the peak load.
How about Pioneer?

Give your non-routine operations to Pioneer

Design and Consulting Engineering Services

Pioneer has specialized in designing power plants for 56 years. It offers design service for fossil fuel, hydro and atomic plants. It will also assist in forecasting load growth, in site selection, in purchasing and expediting of equipment and in supervising construction. Pioneer's other services include substation, transmission and distribution studies and design.

Services in Regulatory Matters

Pioneer offers its services in all phases of Federal, State and Local regulation including the rate base, depreciation analysis, cost of service studies, market analysis, certificate proceedings and rate of return.

Corporate Services

Pioneer's services in corporate matters include business and management engineering advice, financial, accounting and tax counsel and insurance and pension plans and programming. It operates a stock transfer and dividend disbursement service and maintains stock ledgers when desired.

NEW!

On your letterhead, write for 40-page booklet, "Pioneering New Horizons in Power." Describes, illustrates Pioneer's engineering services, and corporate services, from financing to operation.

56 YEARS

Pioneer Service & Engineering Co.

231 SOUTH LA SALLE STREET • CHICAGO 4, ILLINOIS

Paul A. Gorman Elected President of New Jersey Bell

PAUL A. GORMAN was elected president of New Jersey Bell Telephone Co., succeeding William A. Hughes, who was named chairman.

Carl O. Lindeman, executive vice president of Pacific Telephone & Telegraph Co., was named vice president-operations of New Jersey Bell, succeeding Mr. Gorman. The appointments were effective October 1st.

U. S.-Puerto Rico Cable Planned

THE Long Lines department of A.T.&T. Co. announced recently that West Palm Beach, Florida, has been selected as the northern terminal site for a proposed seventeen million dollar undersea telephone cable system linking the United States with Puerto Rico.

Laying of the cables is scheduled to begin late in 1959, with service due to start in 1960.

The twin cables that make up the 1,100-mile system will be landed at Palm Beach.

They will go underground across Palm Beach, slip beneath the waters of the intracoastal waterway and go underground again to a Southern Bell building in West Palm Beach.

TV Sets Lead Phones in U. S.

MORE American homes have television sets than have telephones—or bathtubs, according to the twenty-seventh semi-annual edition of "Television Factbook" just published by *Television Digest*.

The newest statistical bible of the industry says 42,400,000 United States homes, or 84 per cent of total, have one or more TV. About 39,000,000 homes have phone service, while 41,500,000 bathtubs.

San Francisco Low in Utility Rate Comparison

THE combined charges for gas, tric and telephone service in Francisco are the lowest to be f among the Nation's 25 largest c the State Public Utilities Commis reported recently.

The commission figures were l on the charge for 50 thermal unit gas, 100 kilowatt hours of electr and two-party flat-rate phone ser under rates effective last June 30

The San Francisco charges amo ed to $11.03 a month.

The highest monthly charge, was recorded for Boston.

This announcement is not an offer to sell or a solicitation of an offer to buy these securities. The offering is made only by the Prospectus.

$40,000,000

Consumers Power Company

First Mortgage Bonds, 4½% Series due 1988

Dated October 1, 1958 Due October 1, 1988

Price 100.989% and accrued interest

The Prospectus may be obtained in any State in which this announcement is circulated from only such of the undersigned and other dealers as may lawfully offer these securities in such State.

HALSEY, STUART & CO. INC.

SALOMON BROS. & HUTZLER — A. C. ALLYN AND COMPANY INCORPORATED

DICK & MERLE-SMITH — SCHOELLKOPF, HUTTON & POMEROY, INC. — BACHE & CO.

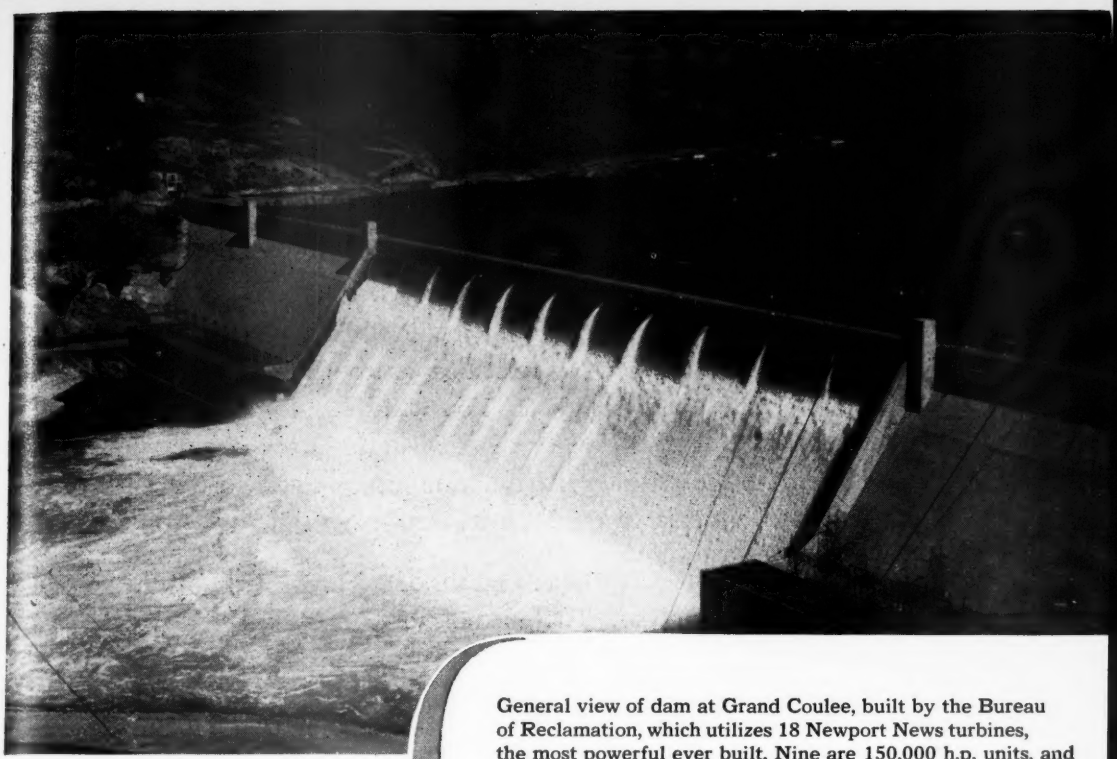
BAXTER & COMPANY — A. G. BECKER & CO. INCORPORATED — HALLGARTEN & CO.

WM. E. POLLOCK & CO., INC. — SHELBY CULLOM DAVIS & CO.

J. C. BRADFORD & CO. — H. HENTZ & CO. — STERN BROTHERS & CO.

STROUD & COMPANY INCORPORATED — VAN ALSTYNE, NOEL & CO.

September 24, 1958.



General view of dam at Grand Coulee, built by the Bureau of Reclamation, which utilizes 18 Newport News turbines, the most powerful ever built. Nine are 150,000 h.p. units, and the other nine are rated at 165,000 h.p. each.

Specialists ... in building Water Power Equipment

Turbines designed and built for the world's largest development at Grand Coulee... and for other hydroelectric installations in America and various parts of the world... bespeak the skill and facilities offered by Newport News.

This trained organization has filled hydroelectric turbine contracts with an aggregate rated output of 7,000,000 horsepower.

Other equipment designed and built by Newport News includes penstocks, pressure regulators, valves, pumps, gates and rack rakes. Upon request, a copy of our illustrated booklet entitled "WATER POWER EQUIPMENT" will be sent to you.

Typical Users of Newport News Equipment

PLANT	LOCATION
Boone	Tennessee
Buchanan	Texas
Caonillas	Puerto Rico
Chief Joseph	Washington
Clark Hill	South Carolina
Deer Lake	Newfoundland
Folsom	California
Fort Patrick Henry	Tennessee
Hiwassee	Tennessee
Hoover	Nevada
J. H. Kerr	Virginia
Jim Woodruff	Florida
Lower Salmon	Idaho
Norris	Tennessee
Rock Creek	California
Santee-Cooper	South Carolina
C. J. Strike	Idaho
Whitney	Texas
Wilson	Alabama

Newport News
SHIPBUILDING AND DRY DOCK COMPANY
Newport News, Virginia

Twofold Benefits From The

Analysts Journal

1. Its timely articles by the nations leading security analysts and economists keep you informed as to methods and trends in the security markets. You will be better able to present your company in its most favorable light if you know the trend of financial thinking as expressed in the official publication of the Security Analysts.

2. Its advertising pages provide a means of putting your story across to the Analysts. There is no more direct and effective way to contact this influential group of investment specialists than to advertise in their own quarterly Journal.

To Keep Abreast of Investment Markets

READ THE ANALYSTS JOURNAL

•

To Keep Investment Markets Abreast of Your Company

ADVERTISE IN THE ANALYSTS JOURNAL

PUBLISHED FIVE TIMES A YEAR BY THE NATIONAL FEDERATION OF FINANCIAL ANALYSTS SOCIETIES

THE ANALYSTS JOURNAL
444 Madison Avenue, Room 2004
New York 22, N. Y.

Gentlemen:

☐ *Please enter my subscription for one year at the subscription rate of $5.00—United States; $5.50—Canada.*

☐ *Please send me your advertising brochure.*

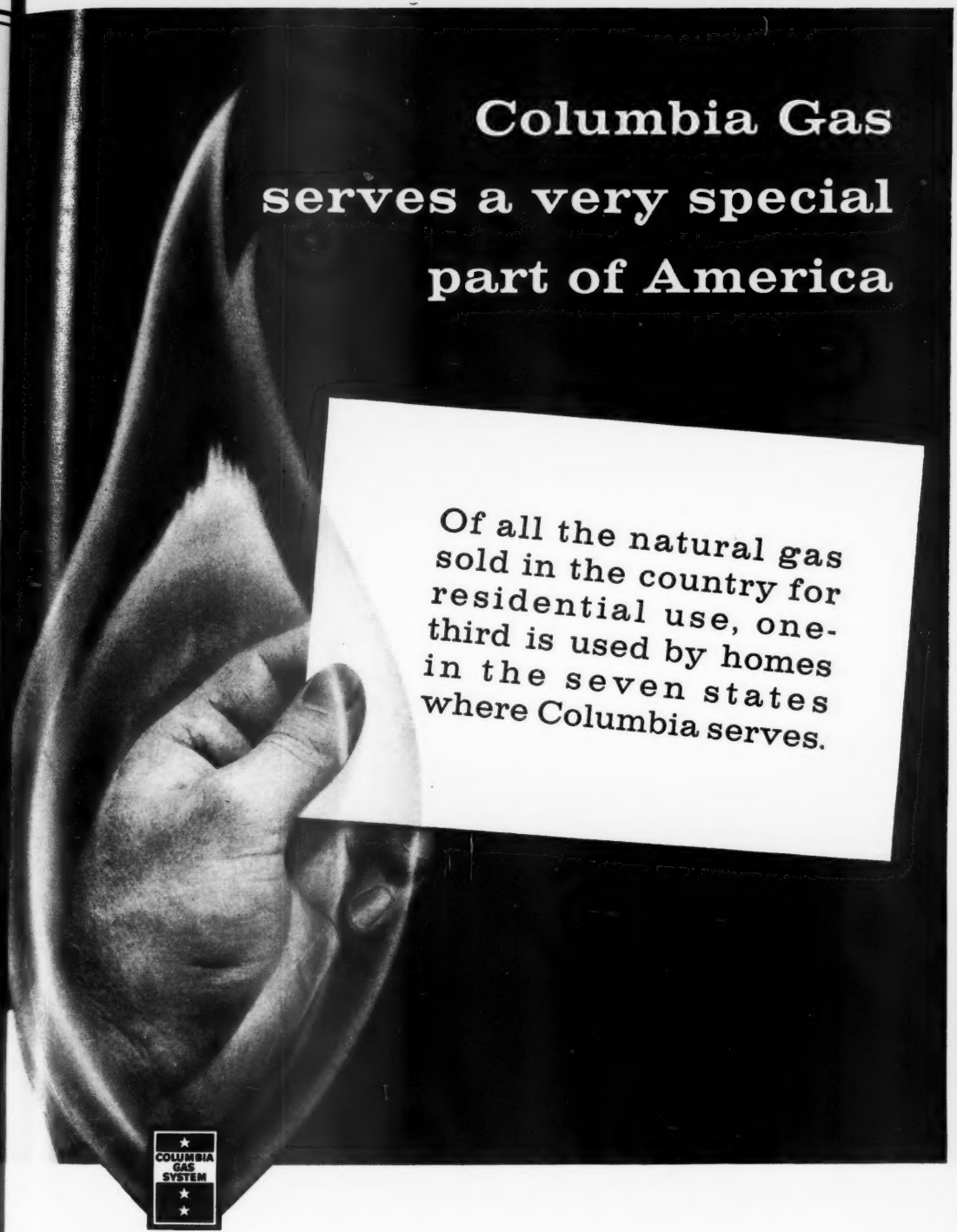
Name .....

Address .....

.....

.....

Columbia Gas serves a very special part of America


Of all the natural gas sold in the country for residential use, one-third is used by homes in the seven states where Columbia serves.
COLUMBIA GAS SYSTEM

ughout its service territory—in Ohio, sylvania, West Virginia, Kentucky, nia, Maryland and southern New — natural gas continues to be the rred *fuel* for home and industry.

THE COLUMBIA Gas SYSTEM, INC.

COLUMBIA GAS SYSTEM SERVICE CORPORATION
COLUMBIA HYDROCARBON CORPORATION
120 EAST 41st STREET, NEW YORK 17, N. Y.

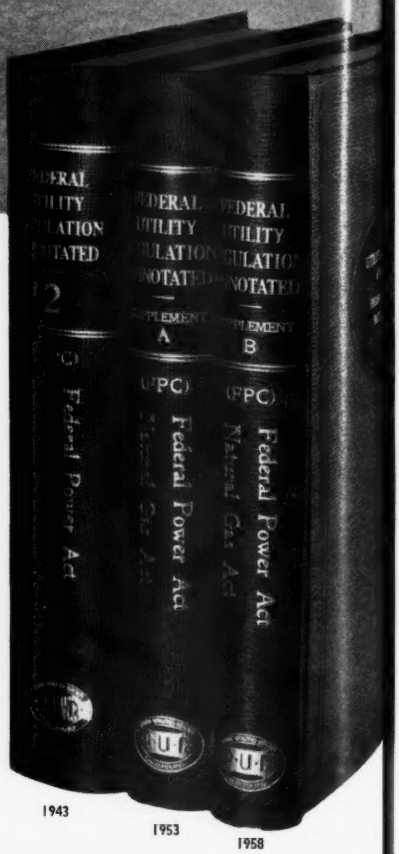
CHARLESTON GROUP: UNITED FUEL GAS COMPANY, 1700 MacCORKLE AVENUE, S.E., CHARLESTON, WEST VIRGINIA. **COLUMBUS GROUP:** THE OHIO FUEL GAS COMPANY, 99 NORTH FRONT ST., COLUMBUS 15, OHIO. **PITTSBURGH GROUP:** THE MANUFACTURERS LIGHT AND HEAT COMPANY, 800 UNION TRUST BLDG., PITTSBURGH 19, PA.

FEDERAL UTILITY REGULATION ANNOTAT

VOLUME 2, WITH SUPPLEMENTAL VOLUMES A AND B

The only up-to-date annotation of the

FEDERAL POWER ACT and NATURAL GAS ACT



This 3-volume set comprises an analytical survey of the activities of the Federal Power Commission, in the administration of the Federal Power Act and the Natural Gas Act from the beginning through 1957.

Replete with

- Annotations of each Act, section by section, covering all important and precedent-making opinions of the Commission and of the courts on appeal, to *January 1, 1958.*
- Extensive editorial analyses
- FPC rules and regulations in effect July 1, 1958.

Only Complete Reference Work of its Kind

Questions are discussed relating to the determination of the cost of projects, accounting, rate-base determinations, rates, service and granting of licenses, including the question of licensing partially settled by the special law authorizing development of power by the New York State Power Authority. The extent of the Commission's jurisdiction, what constitutes interstate commerce, return allowance, cost allocation in the fixing of gas rates, and many other vital subjects, are also discussed.

Recent Commission and court rulings are incl on various phases of the complex problems arising the extension of Commission regulation to natura producers, as a result of the U. S. Supreme Court dec in the *Phillips Case.* Decisions are also included de with the filing of rates by gas producers and those whom they do business, the departure from the basis for rate making because of the nature of prod operations, and the troublesome problems as to cha in filed contract rates, such as the questions arisin the *Memphis Case.*

***A valuable possession for the executives of gas producing, pipeline, gas distributing and el companies, and their counsel, as well as attorneys, rate experts, accountants, valuation engi utility analysts and others* having an interest in the activities, practices and procedures of the F Power Commission.**

Complete set of 3 volumes—$37.50.

PUBLIC UTILITIES REPORTS, INC., *Publishers*

332 PENNSYLVANIA BUILDING
WASHINGTON 4, D. C.

PROFESSIONAL DIRECTORY

• This Directory is reserved for engineers, accountants, rate experts, consultants, and others equipped to serve utilities in all matters relating to rate questions, appraisals, valuations, special reports, investigations, financing, design, and construction.

63 years of leadership in property valuation

The AMERICAN APPRAISAL Company

Home Office: Milwaukee 1, Wisconsin

Offices in 18 cities coast-to-coast

BLACK & VEATCH

CONSULTING ENGINEERS

Electricity, Natural Gas and Water Utilities
Production, Transmission, Distribution

Reports, Design, Supervision of Construction
Investigations, Valuation and Rates

1500 MEADOW LAKE PARKWAY, KANSAS CITY 14, MISSOURI (SINCE 1915)

BONI, WATKINS, JASON & CO., INC.

Economic & Management Consultants

37 Wall Street
New York 5, N. Y.

437 Shoreham Bldg.
Washington 5, D. C.

Rate Cases — Management and Market Studies — Rate of Return Analysis
Cost of Service Determination — Economic and Financial Reports

---

DAY & ZIMMERMANN, INC.

ENGINEERS & CONSTRUCTORS

NEW YORK — PHILADELPHIA — CHICAGO

Design — Electric Line Construction — Management — Reports and Valuations

---

DRAKETOWN 2000 ®

PROPANE PLANTS

★ ***Standby***
★ ***Augmentation***
★ ***100% Town Supply***

Design • Engineering • Construction

DRAKE & TOWNSEND INCORPORATED — **11 WEST 42ND STREET NEW YORK 36, N. Y.**

F B&D

Ford, Bacon & Davis

VALUATION REPORTS — **Engineers** — CONSTRUCTION RATE CASES

NEW YORK • CHICAGO • LOS ANGELES

(Professional Directory Continued on Next Page)

PROFESSIONAL DIRECTORY
(continued)

FOSTER ASSOCIATES, INC.

Rate Cases • Cost of Service and Other Regulatory Methods
Rate of Return Analyses • Rate Design
Natural Gas Field Price Problems • Economic and Financial Reports

1523 L STREET, N.W.
WASHINGTON 5, D. C.

326 MAYO BUILDING
TULSA 3, OKLAHOMA

GIBBS & HILL, INC.

Consulting Engineers
DESIGNERS • CONSTRUCTORS
Los Angeles **NEW YORK** Tampa

GAI
FOUNDED 1906

GILBERT ASSOCIATES, INC.

ENGINEERS and CONSULTANTS
525 LANCASTER AVE.
READING, PA.
WASHINGTON • NEW YORK

W. C. GILMAN & COMPANY

CONSULTING ENGINEERS
ELECTRIC — GAS — TRANSIT — WATER
Financial and Economic Reports
Valuations—Rate of Return—Depreciation Studies
Traffic Surveys—Fare Analyses

55 Liberty Street — New York 5, N. Y.

Harza Engineering Company

Consulting Engineers
Calvin V. Davis — Richard D. Harza — E. Montford Fucik
REPORTS — DESIGN — SUPERVISION
HYDROELECTRIC PLANTS AND DAMS — TRANSMISSION LINES — FLOOD CONTROL — IRRIGATON — RIVEB BASIN DEVELOPMENT

400 West Madison Street — Chicago 6, Illinois

GUSTAV HIRSCH ORGANIZATION, INC.

1347 West 5th Ave., Columbus (12) Ohio
Telephone Hudson 8-0611
Consulting and Supervisory Engineers and Contractors
Construction and Operation of Utility Enterprises

HOOSIER ENGINEERING COMPANY

Erection and Maintenance of
Electrical Transmission and Distribution Lines

1350 HOLLY AVENUE • COLUMBUS, OHIO

Mention the FORTNIGHTLY—*It identifies your inquiry*

PROFESSIONAL DIRECTORY *(continued)*

INTERNATIONAL ENGINEERING COMPANY, INC.

Design and Consulting Engineers

Dams—Power Plants—Transmission Lines—Railroads—Highways
Investigations—Reports—Plans and Specifications
Cost Estimates—Supervision of Construction

74 New Montgomery Street — San Francisco 5, California

JENSEN, BOWEN & FARRELL

ENGINEERS
ANN ARBOR, MICHIGAN
APPRAISALS—INVESTIGATIONS—DEPRECIATION STUDIES—
COST TRENDS—REPORTS
for Rate Cases, Security Issues, Regulatory and Accounting Requirements
ORIGINAL COST AND CONTINUING PROPERTY RECORD
DETERMINATION

The Kuljian Corporation

ENGINEERS • CONSTRUCTORS
POWER PLANT SPECIALISTS
DESIGN • CONSTRUCTION MANAGEMENT
SURVEYS • INVESTIGATIONS • REPORTS
1200 N. BROAD ST., PHILADELPHIA 21, PA.

William S. Leffler, Engineers Associated

Utility Management Consultants for past 35 years Specializing in

GAS
ELECTRIC
WATER

DEVELOPMENT OF CLASS RATES OF RETURN AND
CLASS UNIT COST DETERMINATIONS FOR
RATE STRUCTURE MODERNIZATION AND RATE CASES

REGULATORY and MUNICIPAL PROBLEMS

Send for brochure: "The Value of Cost Analysis to Management"
DARIEN, CONNECTICUT

CHAS. T. MAIN, INC.

Power Surveys—Investigations—Valuations—Reports
Design and Construction Management
Steam, Hydro Electric and Diesel Plants—Gas Turbine Installations

BOSTON, MASS. — - - - — CHARLOTTE, N. C.

Pioneer Service & Engineering Co.

CONSULTING, DESIGNING AND
OPERATING ENGINEERS
PURCHASING

231 SOUTH LA SALLE STREET

SPECIALISTS IN
ACCOUNTING, FINANCING, RATES,
INSURANCE AND DEPRECIATION

CHICAGO 4, ILLINOIS

SANDERSON & PORTER ENGINEERS

DESIGN • CONSTRUCTION

NEW YORK — NEW YORK

(Professional Directory Continued on Next Page)

PROFESSIONAL DIRECTORY
(continued)

Sargent & Lundy
ENGINEERS
Steam and Electric Plants
Utilities—Industrials
Studies—Reports—Design—Supervision
Chicago 3, Ill.

STANDARD RESEARCH CONSULTANTS, INC.
Rate of Return • Valuations • Capital Costs
Customer Surveys • Depreciation Studies
Regional Economic Studies • Property Records
345 Hudson St. Watkins 4-6400 New York 14, N. Y.

STONE & WEBSTER
ENGINEERING CORPORATION
Design • Construction • Reports • Appraisals
Examinations • Consulting Engineering
NEW YORK BOSTON CHICAGO PITTSBURGH HOUSTON
SAN FRANCISCO LOS ANGELES SEATTLE TORONTO

The J. G. WHITE ENGINEERING CORPORATION
Design—Construction—Reports—Appraisals
Consulting Engineering
80 BROAD STREET NEW YORK 4, N. Y.

Whitman, Requardt and Associates
DESIGN—SUPERVISION
REPORTS—VALUATIONS
1304 ST. PAUL STREET
Publishers of the 35-year-old
HANDY-WHITMAN INDEX
for Public Utility
Construction Cost Trends
Including Hydro-Electric Properties
BALTIMORE 2, MARYLAND

Abrams Aerial Survey Corporation
Topographic and Planimetric Maps
Mosaics, Plans & Profiles for all
Engineering work.
Abrams Bldg. Lansing, Mich.

EARL L. CARTER
Consulting Engineer
REGISTERED IN INDIANA, NEW YORK, OHIO, PENNSYLVANIA, WEST VIRGINIA, KENTUCKY
Public Utility Valuations, Reports and Original Cost Studies
910 Electric Building Indianapolis, Ind.

BURNS & McDONNELL
Engineers - Architects - Consultants
KANSAS CITY, MO.
P. O. Box 7088
Phone: DElmar 3-4375

ENGINEERS, CONSTRUCTION AND MAINTENANCE CONTRACTORS
for the GAS INDUSTRY
CONSOLIDATED GAS AND SERVICE CO.
327 So. LaSalle St., Chicago 4, Ill.

Mention the FORTNIGHTLY*—It identifies your inquiry*

PROFESSIONAL DIRECTORY *(concluded)*

GANNETT FLEMING CORDDRY AND CARPENTER, INC.
ENGINEERS
Investigations—Reports—Appraisals
Original Cost and Depreciation Studies
Rate Analyses—Insurance Surveys
HARRISBURG, PENNSYLVANIA

MINER AND MINER
CONSULTING ENGINEERS
INCORPORATED
GREELEY COLORADO

FRANCIS S. HABERLY
CONSULTING ENGINEER
Valuation—Depreciation
Investigations and Reports
122 SOUTH MICHIGAN AVENUE, CHICAGO

PITTSBURGH TESTING LABORATORY
Radiography—Soils—Mechanics
Testing—Inspection—Analysis
Main Office, Pittsburgh, Pa.
32 Laboratories in Principal Cities

JACKSON & MORELAND, INC.
Engineers and Consultants
Design and Supervision of Construction
Reports — Examinations — Appraisals
Machine Design — Technical Publications
Boston New York

A. S. SCHULMAN ELECTRIC CO.
Electrical Contracting Engineers
founded 1890
POWER STATION—INDUSTRIAL—
COMMERCIAL—TRANSMISSION LINES—
DISTRIBUTION
2416 S. MICHIGAN AVE., CHICAGO, ILL.
Los Angeles Tampa

PETER F. LOFTUS CORPORATION
PFLC ESTABLISHED 1923
Design and Consulting Engineers
Electrical • Mechanical • Structural
Civil • Nuclear • Architectural
FIRST NATIONAL BANK BUILDING
Pittsburgh 22, Pennsylvania

The R. W. STAFFORD CO.
GAS CONSULTANTS — ENGINEERS
CONSTRUCTORS
Natural Gas Conversions
Plant Management & Operations
Accident & Insurance Investigations
Peak Shaving & Standby Plants
EVANSTON, ILLINOIS
2944 Grant St. Phone UNiversity 4-6190

LUTZ & MAY COMPANY
Consulting Engineers
STEAM, GAS & DIESEL POWER STATIONS
PUMPING PLANTS—ELECTRIC SYSTEMS
REPORTS—DESIGNS—APPRAISALS
1009 Baltimore Kansas City 6, Mo.

SVERDRUP & PARCEL
Engineers & Consultants
Design, Construction Supervision
Steam and Hydro Power Plants
Power Systems—Industrial Plants
Studies—Reports
St. Louis • San Francisco • Washington

J. F. McMAHON ASSOCIATES, INC.
Engineering Consultants
INSTRUMENTATION AND CONTROL
STUDIES • REPORTS
DESIGN • SUPERVISION
P. O. DRAWER 3908, SHAKER SQUARE STATION
CLEVELAND 20, OHIO
GArfield 1-4834

A. W. WILLIAMS INSPECTION CO., INC.
Specialized Inspection Service
Poles, Crossarms, Lumber, Piles, Crossties
Preservative Treatment and Preservative Analysis
208 Virginia St., Mobile, Ala.
New York St. Louis Portland
Inspectors stationed throughout the U.S.A.

Mention the FORTNIGHTLY—*It identifies your inquiry*

INDEX TO ADVERTISERS

[*The Fortnightly lists below the advertisers in this issue for ready reference. Their products and services cover a wide range of utility needs.*]

A

Abrams Aerial Survey Corporation 44
*Allen & Company .....
*Allis-Chalmers Manufacturing Company .....
American Appraisal Company, The 41
*AMP Incorporated .....
Analysts Journal, The 38
*Anchor Metals, Inc. .....

B

*Babcock & Wilcox Company, The .....
Black & Veatch, Consulting Engineers 41
*Blyth & Company, Inc. .....
Boni, Watkins, Jason & Co., Inc. 41
Burns & McDonnell, Engineers 44

C

California Water & Telephone Company 31
Capital City Telephone Company 34
Carolina Telephone and Telegraph Company 28
Carter, Earl L., Consulting Engineers 44
Central Telephone Company 13
Cleveland Trencher Company, The 32
Columbia Gas System, Inc., The 39
*Combustion Engineering, Inc. .....
Commonwealth Associates, Inc. 14
Commonwealth Services, Inc. 14
Commonwealth Telephone Co. of Ohio 29
Consolidated Gas and Service Company 44

D

Day & Zimmermann, Inc., Engineers 41
Delta-Star Electric Division, H. K. Porter Company, Inc. .. 23
Dodge Division of Chrysler Corp. 20
Drake & Townsend, Inc. 41

E

*Eastman Dillon, Union Securities & Company .....
*Ebasco Services Incorporated .....
*Electro-Motive Division, General Motors .....

F

*First Boston Corporation, The .....
*Fish Service Corporation .....
Fitchburg Engineering Corporation 30
Florida Telephone Corporation 19
Ford, Bacon & Davis, Inc., Engineers 41
Foster Associates, Inc. 42

G

Gannett Fleming Corddry and Carpenter, Inc. 45
General Electric Company .....Outside Back Cover
General Telephone Corporation 17
Gibbs & Hill, Inc., Consulting Engineers 42
Gilbert Associates, Inc., Engineers .....Inside Front Cover, 42
Gilman, W. C., & Company, Engineers 42
*Glore, Forgan & Company .....

H

Haberly, Francis S., Consulting Engineers 45
Halsey, Stuart & Company, Inc. 36
*Harnischfeger Corporation .....
*Harriman, Ripley & Company .....
Harza Engineering Company 42
Hirsch, Gustav, Organization, Inc. 42
Hoosier Engineering Company 42
Hughey & Phillips, Inc. 33

I

International Business Machines Corp. .....Inside Back Cover
International Engineering Company, Inc. 43
*International Harvester Company, The .....
Irving Trust Company 18

J

Jackson & Moreland, Inc., Engineers 45
Jensen, Bowen & Farrell, Engineers 43
*Justrite Mfg. Company .....

K

Kander, Allen, and Company .....
Kellogg, M. W., Company, The .....
Kerite Company, The .....
Kidder, Peabody & Company .....
*Kuhn Loeb & Company .....
Kuljian Corporation, The .....

L

*Langley, W. C. & Co. .....
Lee Telephone Company .....
Leffler, William S., Engineers Associated .....
*Lehman Brothers .....
Lincoln Telephone and Telegraph Company, The .....
*Line Material Industries .....
*Loeb (Carl M.) Rhoades & Co. .....
Loftus, Peter F., Corporation .....
Lutz & May Company, Consulting Engineers .....

M

Main, Chas. T., Inc., Engineers .....
*Marlow Pumps Division of Bell & Gossett Co. .....
McMahon, J. F., Associates, Inc. .....
*Merrill Lynch, Pierce, Fenner & Smith .....
Miner & Miner, Consulting Engineers .....
*Morgan Stanley & Company .....

N

*National Association of Railroad & Utilities Commissioners
Newport News Shipbuilding & Dry Dock Company .....
North State Telephone Company .....

O

*Osmose Wood Preserving Co. of America, Inc. .....

P

*Pacific Pumps, Inc. .....
Pioneer Service & Engineering Company 35,
Pittsburgh Testing Laboratory .....
Porter, H. K., Company, Inc., Delta-Star Electric Division ..

R

Recording & Statistical Corporation .....
Remington Rand Div. of Sperry Rand Corp. .....
*Robertson, H. K., Company .....

S

Sanderson & Porter, Engineers .....
Sargent & Lundy, Engineers .....
Schulman, A. S., Electric Co., Engineers .....
*Smith, Barney & Company .....
*Southern Pipe Coating Company .....
Southwestern States Telephone Company, The .....
Stafford, R. W., Company, The, Consultants .....
Standard Research Consultants, Inc. .....
Stone and Webster Engineering Corporation .....
Sverdrup & Parcel, Engineers & Consultants .....

T

Telephone Services, Inc. .....
Tower Construction Company .....

U

United Utilities, Incorporated .....

W

*Westinghouse Electric Corporation .....
White, J. G., Engineering Corp., The .....
*White, Weld & Co. .....
Whitman, Requardt and Associates .....
Wilkinson Products Company .....
Williams, A. W., Inspection Company, Inc. .....

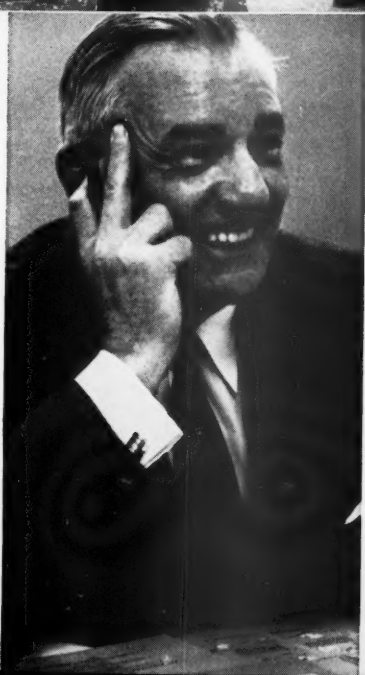
Professional Directory 41-45

*Fortnightly advertisers not in this issue.

ANNOUNCES

DATA PROCESSING DESIGNED FOR THE SMALL, GROWING BUSINESS

IBM /50 SERIES



NEW IBM SERIES 50 is a complete punched card system designe and priced to meet the needs of the smaller, growing business. Wit IBM SERIES 50, you get all the functions of larger IBM systems. Th only difference is lower operating speeds. These have been adjusted t the needs of smaller businesses.

COST CONSCIOUS. IBM SERIES 50 is priced within the reac of smaller business budgets. It means operating efficiency at a pric that respects your profit margins.

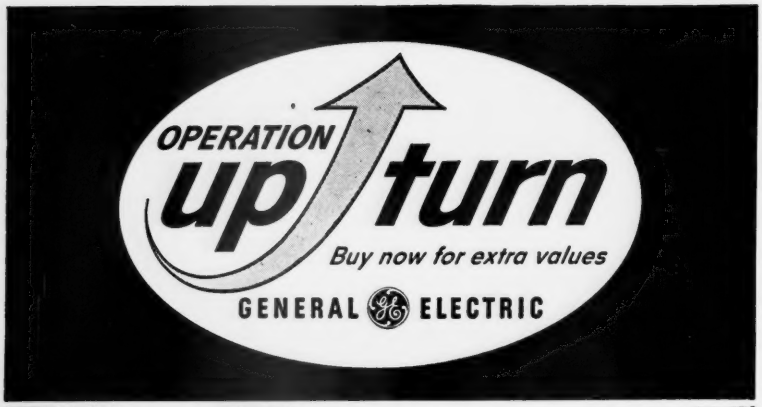
DESIGNED FOR GROWTH. IBM SERIES 50 methods are based o the same punched card principles that are the backbone of larger IBM data processing systems. Your applications and procedures are com patible with any size IBM system.

IBM DEPENDABILITY. As an IBM customer, your company reap the advantages of more than 44 years of applications experience an dependable customer service. Your company can now learn throug first-hand experience how data processing fits into your growin business picture.

ACT NOW... Find out today how easy it is to put IBM SERIES 5 to work. Call your local IBM representative or write to: Internationa Business Machines Corporation, Department B-1, 590 Madison Avenu New York 22, N. Y.

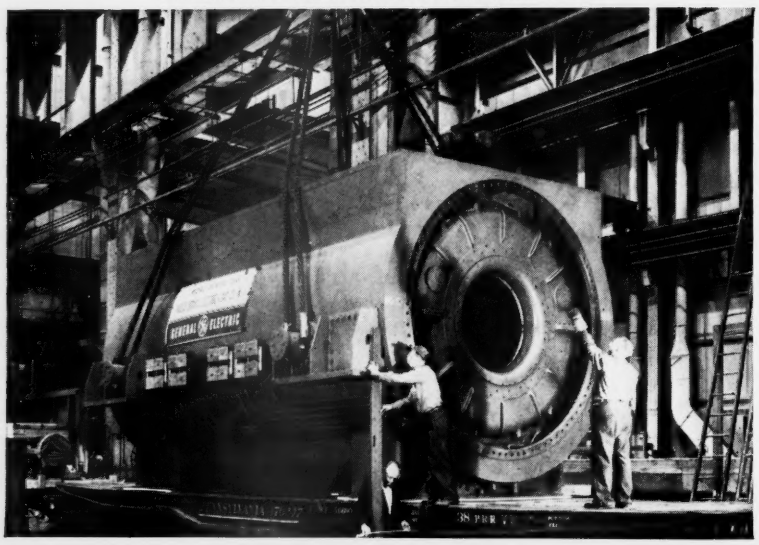
IBM® DATA PROCESSING

How OPERATION UPTURN can benefit electric utilities



OPERATION UPTURN BUILDS LOAD

OPERATION UPTURN OFFERS OUTSTANDING VALUES



As a dramatic demonstration of confidence in the nation's economic strength, General Electric has announced OPERATION UPTURN—a Company-wide program designed to help speed the upturn in business. This program marshals all of G.E.'s management and technical skills and brings them to bear on the challenging task of encouraging customers to buy NOW for extra values. In addition to this new business strategy and aggressive marketing techniques, Operation Upturn enlists the support of 221,000 employees, 385,000 stockowners and hundreds of thousands of natural sales allies—dealers, distributors, suppliers.

BUILDING SALES AND JOBS—Operation Upturn is one common-sense answer to current business problems. It further stimulates an economic chain reaction (1) to help revive employment and the business climate; and (2) to encourage industry to get on with long-range plans geared to needs of growth years ahead.

BENEFITS TO ELECTRIC UTILITIES ARE TWOFOLD

- **Building load**—By encouraging consumers and industries to purchase electrical goods now, Operation Upturn helps build new loads for electric utilities, thus making possible immediate power sales to utilities to offset declines in other power consumption categories.
- **Outstanding values**—Operation Upturn re-emphasizes the outstanding extra values and up-to-date products General Electric offers utility companies today. With prospects linked directly to inevitable postwar tion increases, electric utilities can gain important advantages by looking forward . . . NOW . . . their long-term construction programs on a steady basis at today's favorable prices.

FOR MORE INFORMATION about Operation Upturn, and what it offers in terms of your business and long-range plans, contact your nearest G-E Apparatus Sales Office. General Electric Company, Section 390, Schenectady 5, New York.

MORE POWER TO AMERICA

GENERAL ELECTRIC